Assessing the Evidence for Effective Health Care Systems for Special Adolescent Populations: Youth with Substance Use Disorders

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Overview

Problem: Substance use prevalence and severity

- Related medical, psychiatric, and social problems

Fragmented systems of care – **Policy constraints**

- Lack of insurance for substance use and not under Parity
- Privacy issues more stringent (42CFR)

Problems not identified until severe

- **Promising Future Directions:** Importance of primary care - What are the opportunities in primary care to identify and treat earlier?
  - Screening and treatment

Current models of substance use treatment

- Research on effectiveness

Mental Health and Substance Use Health Care Compared to General Health Care

Increased stigma, discrimination, & coercion

More separate care delivery arrangements

Patient decision-making ability not as anticipated / supported

Less involvement in the NHII and use of IT

Diagnosis more subjective

More diverse workforce and more solo practice

A less developed quality measurement & improvement infrastructure

Differently structured marketplace

Institute of Medicine. Improving the quality of health care for mental and substance-use conditions: Quality chasm series. Washington, DC: National Academies Press; 2005

Study Setting: Kaiser Permanente of Northern California

Non-profit, managed care organization with 3.4 million members (39% of region's commercially insured population)

Chemical dependency services provided internally; no referral necessary

Four outpatient Chemical dependency recovery programs

Abstinence-based treatment programs: group therapy, education, relapse prevention, and family therapy

Adolescent Study:
CD Patients & Matched Controls

Treatment Sample:

419 adolescents, aged 12-17; 83% of those with an intake and orientation

143 girls, 276 boys

Ethnicity: 49% White
20% Hispanic
16% African-American
6% Native American
3% Asian

Matched Controls:

2084 adolescents from the health plan; 5 to 1 match

Matched on gender, age, length of health plan enrollment, and geographic area

Data Sources:

Surveys of treatment sample; interviews with adolescent and parent

Clinical diagnoses, service utilization and cost from health plan administrative databases

Sterling S, Kohn C, Lu Y, Weisner C. Pathways to Chemical Dependency Treatment for Adolescents in an HMO. Journal of Psychoactive Drugs. December 2004;36(4):439-53.

Medical Conditions of Adolescents in CD Treatment vs. Matched Controls

Adolescents in alcohol and drug treatment had significantly higher prevalence of several medical conditions, including:

- Asthma
- Injury
- Sleep disorders
- Pain conditions (abdominal pain, muscle pain, and headaches)
- STDs
- Dermatology conditions
- Gastroenteritis

Mertens J, Flisher A, Sterling S, Weisner C. Medical conditions in adolescent alcohol and drug treatment patients in a private health plan: comparison with matched controls. Scientific Meeting of the Research Society on Alcoholism, Santa Barbara, CA, June 29, 2005.

Psychiatric Conditions of Adolescents in CD Treatment & Matched Controls (%)

	Tx Intakes	Controls	p-value
Depression	36.3	4.2	<.0001
Anxiety Disorder	16.3	2.3	<.0001
Eating Disorders	1.2	0.43	.067
ADHD	17.2	3.0	<.0001
Conduct Disorder	19.3	1.2	<.0001
Conduct Disorder (w/ODD)	27.3	2.3	<.0001
Any Psychiatric DX	55.5	9.0	<.0001

Sterling S, Weisner C. Chemical dependency and psychiatric services for adolescents in private managed care: Implications for outcomes. *Alcohol Clin Exp Res.* May 2005;25(5):801-9.

HIV Risk Behaviors among Adolescents in CD Treatment

Risky Behaviors	Boys (*N*=276) %	Girls (*N*=143) %
Injection drug use (IDU)	2	4
Sharing needles or works	1	1
Never/inconsistent condom use (of those reporting ever having sex)	35	53*
Sex with multiple partners, past 6 months	39	37
+ never/inconsistent condom use	43	52
Male homosexual activity/female bisexual activity	3	14*

Ammon L, Sterling S, Mertens J, Weisner C. Adolescents in private chemical dependency programs: who are most at risk for HIV? *J Subst Abuse Treat.* Jul 2005;29(1):39-45.

Ethnic Disparities in Problem Severity

Native Americans tend to rank higher on severity measures at baseline

- Mental health problems; alcohol and drug use

African Americans reported the lowest alcohol and drug use

- More likely to be referred from legal sources

Campbell CI, Weisner C, Sterling S. Adolescents entering chemical dependency treatment in private managed care: ethnic differences in treatment initiation and retention. *J Adolesc Health.* 2006. 38(4):343-50

Missed Opportunities in 24 Months prior to Treatment Intake

	24 months prior to intake (%)	12 months prior to intake (%)	3 months prior to intake (%)
Primary Care*	89.5	79.2	48.7
Psychiatry	50.1	42.0	30.8
ER	26.3	17.9	11.7

*Includes visits to the following departments: **Family Practice, General Medicine**, **GYN**, **Medicine**, **Pediatrics**, **Physical Medicine** and **Urgent Care**.

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What to do: Screening in Primary Care

Guidelines from national health care organizations recommend screening for risky behaviors, including drug and alcohol use

- AMA, AAP, IOM

Studies show relatively few PCPs screen

Fewer use standardized screeners

- Time constraints, stigma, confidentiality, provider unaware of resources, unaware of effectiveness of treatment

CRAFFT: A Brief Screening Test for Adolescent Substance Abuse

C - Have you ever ridden in a **CAR** driven by someone (including yourself) who was “high” or had been using alcohol or drugs?

R - Do you ever use alcohol or drugs to **RELAX** feel better about yourself, or fit in?

A - Do you ever use alcohol or drugs while you are by yourself, **ALONE**?

F - Do your family or **FRIENDS** ever tell you that you should cut down on your drinking or drug use?

F - Do you ever **FORGET** things you did while using alcohol or drugs?

T - Have you gotten into **TROUBLE** while you were using alcohol or drugs?

Knight JR, Sherritt L, Shrier LA, Harris SK, Chang G. Validity of the CRAFFT substance abuse screening test among adolescent clinic patients. *Arch Pediatr Adolesc Med 2002.* 2002;156:607-614.

Most Common Treatment Models

Program approach

- 12-step (66%)
- Cognitive behavioral therapy (57.6%)
- Motivational enhancement (19.4%)
- Multisystemic therapy (18.8%)
- Multidimensional family therapy (13.2%)
- Therapeutic community (13.2%)

144 “highly regarded adolescent SU treatment programs

Brannigan R, Schackman BR, Falco M, Millman RB. The quality of highly regarded adolescent substance abuse treatment programs: results of an in-depth national survey. *Arch Pediatr Adolesc Med* Sep 2004;158(9):904-909.

Key Elements of Effective Treatment

Assessment and monitoring (19.4%)
Comprehensive, integrated approach (33.3%)
Family involvement (34%)
Development appropriateness (44.4%)
Engaging and retaining (25%)
Qualified staff (53.5%)
Gender and cultural competence (10.4%)
Continuing Care (38.9%)
Treatment outcomes (5.6%)

JCAHO, CARF, or COA accredited (50%)

Advisory panel of 22 experts evaluating 144 “highly regarded” adolescent SU treatment programs – mean score was 23.8 out of possible total score of 45. (Brannigan et al., 2004)

Research on Substance Use Services:

Much of the literature discusses “models” but fewer controlled studies (Belenko and Logan, 2003)

Traditionally most research on public programs

Not as much research on addressing problems in primary care

Research on Substance Use Services

Most studies don’t show large differences between treatments

- Comparing outpatient programs (Godley et al., 2004)
- Comparing outpatient and residential (Winters et al., 2000)

Differences in outcomes related to severity and comorbidity (psychiatric, medical, social) (Rounds-Bryant et al., 1999; Dobkin et al., 1998; Grella and Joshi, 2003; Hser et al., 2001; Latimer et al., 2000; Tomlinson et al., 2004)

- Need to examine efficacy of treatments to address these co-occurring problems (Ciraulo et al., 2003)
- RCT of CBT and Interactional Treatment found no matching on psychiatric severity, but found short-term (only) for CBT (Kaminer and Burleson, 1999)
- Group-based models (Battjes et al., 2004)

Research on Effective Treatment

Overview of controlled studies (family-based and multisystemic; behavioral therapy, cognitive behavioral therapy, pharmacotherapy, and 12-step) (Winters, 1999)

Difficult to conclude one approach is more effective (however, results look “promising” for CBT (Waldron and Kaminer, 2004) and family-based multi-systemic (Deas and Thomas, 2001)

Promising effects of family therapy (Liddle and Dakof,1995). Positive results in multisystemic family therapy comparison with peer group treatment (Liddle et al., 2004)

- May be particularly important for Hispanic adolescents (Szapocznik et al., 2006)

Study of 10-site treatment models found short term effects for residential treatment, but higher relapse among those in long-term residential care

- Within level of care, few differences (Dasinger et al., 2004)

Research on Effective Treatment

Nicotine use often not reduced (Brown et al., 2001)

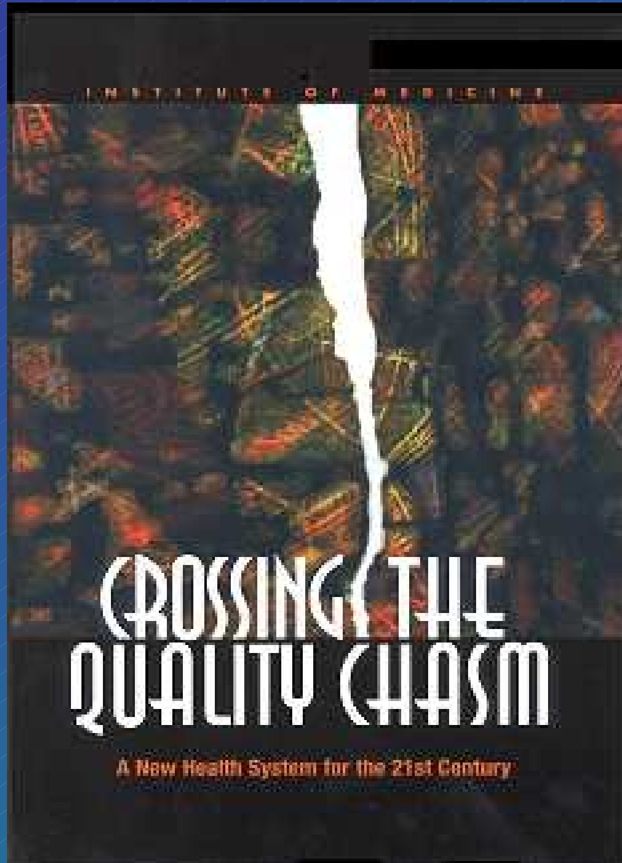
Gender-based and culture-specific treatments not well evaluated

Interest in adolescent preferences/patient centered-care (Metrik et al., 2003)

Medications

Medications are promising, but as yet not well developed or assessed for adolescents (Greydanus and Patel., 2003; Ciraulo et al., 2003; NIAAA Physicians' Guide: http//www.niaaa.gov; Mack and Frances, 2003)

Crossing the Quality Chasm



"Quality problems occur typically not because of failure of goodwill, knowledge, effort or resources devoted to health care, but because of fundamental shortcomings in the ways care is organized"

Trying harder will not work: changing systems of care will!

a new HEALTH system for the 21st century (IOM, 2001)

Coordination and Linkages: A Continuum

Ad hoc arrangements between individual providers in different systems

Referral agreement

Contractual arrangement

Joint program

Case management/transportation

On-site program/out-stationing across agencies

Friedmann PD, D'Aunno TA, Jin L, Alexander JA. Medical and psychosocial services in drug abuse treatment: do stronger linkages promote client utilization? *Health Serv Res.* 2000;335(2):443-65.

Clinicians

Recommendations:

Have effective linkages with primary care, specialty care, and community agencies to offer patient appropriate resources

Use illness self-management practices

Screen for all co-morbid conditions

Routinely ask patients/families for permission to share clinical information with other providers

Practice evidence-based care coordination

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Health Plans and Purchasers

Recommendations:

Remove payment, service exclusion, benefit limits and other coverage barriers to accessing effective screening, treatment and coordination

Require all contracting organizations and departments within organizations to ask patients to permit sharing their information

Use measures of quality and coordination of care in purchasing and oversight

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Organizations Providing Care

IOM Recommendations:

Have polices to enable and support all actions required of clinicians (on prior slide)

Involve patients / families in design, administration, and delivery of services

If serving a high-risk population (e.g., child welfare, criminal and juvenile justice) screen all entrants for M/SU problems

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Health Plans and Purchasers

IOM Recommendations:

- For consumers with chronic M/SU illnesses, pay for peer support and illness self-management programs that meet standards
- Use and provide consumers with comparative info on the quality of M/SU services to select providers
- Remove payment, service exclusion, benefit limits and other coverage barriers to accessing effective screening, treatment and coordination
- Support development of a quality measurement and reporting infrastructure

(continued)

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Health Plans / Purchasers

IOM Recommendations (cont):

- Require all contracting organizations to appropriately share patient information
- Provide incentives for the use of electronic health records and other IT
- Use tools to reduce adverse risk selection of M/SU treatment consumers
- Use measures of quality and coordination of care in purchasing / and oversight
- Associations of purchasers work to reduce variation in reporting / billing requirements

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State Policy-Makers

IOM Recommendations:

- Make coercion policies transparent, use info on comparative quality of providers and evidence-based treatment, and afford consumers choice
- Revise laws and other policies that obstruct communication between providers
- Create high level mechanisms to improve collaboration and coordination across agencies
- Use purchasing practices that incentivize use of EHRs and other IT
- Enact parity for coverage of M/SU treatment
- Reorient state procurement processes toward quality
- Reorient state purchasing to give more weight to quality and reduce emphasis on grant-based mechanism

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Funders of Research

IOM Recommendations:

Development and refinement of screening, diagnostic, and monitoring instruments to assess response to treatment;

A set of M/SU “vital signs”: a brief set of indicators—for patient screening, early identification of problems and illnesses, and repeated use to monitor symptoms and functional status.

Research approaches that address treatment effectiveness and quality improvement in usual settings of care.

Research designs in addition to randomized controlled trials, that involve partnerships between researchers and stakeholders, and create a “critical mass” of interdisciplinary research partnerships involving usual settings of care.

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Summary

Problems diagnosed late, after severity is high and many co-occurring problems

Promising future policy directions: Integrating with primary care for early identification and intervention is a promising future policy direction

Strong indications of clinical effectiveness

Policy constraints: Fragmented systems of care

References

Ammon L, Sterling S, Mertens J, Weisner C. Adolescents in private chemical dependency programs: who are most at risk for HIV? *J Subst Abuse Treat.* 2005;29(1):39-45.

Battjes RJ, Gordon MS, O'Grady KE, Kinlock TW, Katz EC, Sears EA. Evaluation of a group-based substance abuse treatment program for adolescents. *J Subst Abuse Treat.* Sep 2004;27(2):123-134.

Belenko S, Logan TK. Delivering more effective treatment to adolescents: Improving the juvenile drug court model. *J Subst Abuse Treat.* Oct 2003;25(3):189-211.

Brannigan R, Schackman BR, Falco M, Millman RB. The quality of highly regarded adolescent substance abuse treatment programs: results of an in-depth national survey. . Sep 2004;158(9):904-909.

Brown SA, D'Amico EJ, McCarthy DM, Tapert SF. Four-year outcomes from adolescent alcohol and drug treatment. *J.Stud.Alcohol.* 2001;62(3):381-388.

Campbell CI, Weisner C, Sterling S. Adolescents entering chemical dependency treatment in private managed care: ethnic differences in treatment initiation and retention. *J Adolesc Health.* 2006. 38(4):343-50

Chi FW, Sterling S, Weisner C. Adolescents with co-occurring substance use and mental conditions in a private managed care health plan: prevalence, patient characteristics, and treatment initiation and engagement. *Am J Addict.* Aug 2006;15:67-79.

References (continued)

Ciraulo DA, Piechniczek-Buczek J, Iscan EN. Outcome predictors in substance use disorders. *Psychiatr Clin North Am.* Jun 2006;26(2):381-409.

Dasinger LK, Shane PA, Martinovich Z. Assessing the effectiveness of community-based substance abuse treatment for adolescents. *J Psychoactive Drugs.* Mar 2004;36(1):27-33.

Deas D., Thomas SE. An overview of controlled studies of adolescent abuse treatment. *Am J Addict.* 2001;10(2):178-89. Review.

Dobkin PL, Chabot L, Maliantovitch K, Craig W. Predictors of outcome in drug treatment of adolescent inpatients. *Psychol Rep.* Aug 1998;83(1):175-186.

Friedmann PD, D'Aunno TA, Jin L, Alexander JA. Medical and psychosocial services in drug abuse treatment: do stronger linkages promote client utilization? *Health Serv Res.* 2000;335(2):443-65.

Godley SH, Jones N, Funk R, Ives M, Passetti LL. Comparing outcomes of best-practice and research-based outpatient treatment protocols for adolescents. *J Psychoactive Drugs*. Mar 2004; 36(1):35-48.

Grella CE, Joshi V. Treatment processes and outcomes among adolescents with a history of abuse who are in drug treatment. *Child Maltreat.* Feb 2003;8(1):7-18.

Greydanus DE, Patel DR. Substance abuse in adolescents: a complex conundrum for the clinician. *Pediatr Clin North Am.* Oct 2003;50(5):1179-223.

Hser YI, Grella CE, Hubbard RL, et al. An evaluation of drug treatments for adolescents in 4 US cities. *Arch Gen Psychiatry.* 2001;58(7):689-695.

References (continued)

Kaminer Y, Burleson JA. Psychotherapies for adolescent substance abusers: 15-month follow-up of a pilot study. *The American Journal on Addictions.* 1999 Spring 1999;8(2):114-119.

Knight JR, Sherritt L, Shrier LA, Harris SK, Chang G. Validity of the CRAFFT substance abuse screening test among adolescent clinic patients. *Arch Pediatr Adolesc Med 2002.* 2002;156:607-614.

Latimer WW, Newcomb M, Winters KC, Stinchfield RD. Adolescent substance abuse treatment outcome: the role of substance abuse problem severity, psychosocial, and treatment factors. *J Consult Clin Psychol.* 2000;68(4):684-696.

Liddle HA, Dakof GA. Family-based treatment for adolescent drug use: state of the science. *NIDA Res Monogr.* 1995:156:218-54. Review.

Liddle HA, Rowe CL, Dakof GA, Ungaro RA, Henderson CE. Early intervention for adolescent substance abuse: preteatment to posttreatment outcomes of a randomized clinical trial comparing multidemsional; family therapy and peer group treatment. *J Psychoactive Drugs.* Mar2004;36(1):49-63.

Mack AH, Frances RJ. Treatment of alcohol use disorders in adolescents. *J Psychiatr Pract*. May 2003;9(3):195-208.

Mertens J, Flisher A, Sterling S, Weisner C. Medical conditions in adolescent alcohol and drug treatment patients in a private health plan: comparison with matched controls. Scientific Meeting of the Research Society on Alcoholism, Santa Barbara, CA, June 29, 2005.

Metrik J, Frissell KC, McCarthy DM, D'Amico EJ, Brown SA. Strategies for reduction and cessation of alcohol use: adolescent preferences. *Alcohol Clin Exp Res.* Jan 2003;27(1):74-80.

References (continued)

Parthasarathy S, Weisner C. Health care services use by adolescents with intakes into an outpatient alcohol and drug treatment program. *The American Journal on Addictions.* Aug 2006;15:113-121.

Rounds-Bryant JL, Kristiansen PL, Hubbard RL. Drug abuse treatment outcome study of adolescents: a comparison of client characteristics and pretreatment behaviors in three treatment modalities. *American Journal of Drug and Alcohol Abuse.* Nov 1999;25(4):573-591.

Sterling S, Kohn C, Lu Y, Weisner C. Pathways to Chemical Dependency Treatment for Adolescents in an HMO. *Journal of Psychoactive Drugs*. December 2004;36(4):439-53.

Sterling S, Weisner C. Chemical dependency and psychiatric services for adolescents in private managed care: Implications for outcomes. *Alcohol Clin* Exp Res. May 2005;25(5):801-9.

Szapocznik J, Lopez B, Prado B, Schwartz SJ, Pantin H. Outpatient drug abuse treatment for Hispanic adolescents. *Drug Alcohol Depend.* Sep 2006; 84 Suppl 1:S54-63.

Tomlinson KL, Brown SA, Abrantes A. Psychiatric comorbidity and substance use treatment outcomes of adolescents. Psychol Addict Behav. Jun 2004;18(2):160-9.

Waldron HB, Kaminer Y. On the learning curve: the emerging evidence supporting cognitive-behavioral therapies for adolescent substance abuse. *Addiction*. Dec 2004;99(Suppl 2):93-105.

Winters KC. Screening and Assessing Adolescents for Substance Use Disorders. Treatment Improvement Protocol (TIP) Series No. 31. Rockville, MD: Substance Abuse and Mental Health Services Administration. DHHS Publication No. (SMA) 99-3283.1999.