Critical Review Form
Therapy

Utility of routine drug screening in a psychiatric emergency setting. Psychiatr Serv. 2000 Apr;51(4):474-8.

Objectives: **To determine "whether dispositions from an urban psychiatric emergency service would differ between patients who received a mandatory urine drug test and those who may or may not have had a test based on the attending psychiatrist's clinical judgment." (p. 474)**

Methods: **In this prospective, randomized trial, all patients presenting to the psychiatric service of San Francisco General Hospital from July 17, 1997 to September 26, 1997 were eligible for enrollment. Consenting patients were then randomized to either mandatory drug screening or usual care. Psychiatrists blinded to group allocation ordered drug screens for patient in both groups if they deemed it clinically necessary. All remaining patients in the mandatory screening group had drug screens ordered automatically. The drug screens tested for ethanol, amphetamines/methamphetamines, barbiturates, benzodiazepine, cocaine, opiates, and methadone.**

Demographic and clinical information, disposition, and drug screen results were obtained from the hospital records. The primary outcome was disposition decision (referral for inpatient or outpatient psychiatric treatment, referral to inpatient or outpatient substance abuse treatment, or discharge home without a referral). The secondary outcomes were the accuracy patients' reporting or substance abuse and the accuracy of the psychiatric physicians' assessment of substance abuse (limited to the mandatory drug screen group).

A total of 394 patients were enrolled, with 198 randomized to the mandatory screening group and 194 to the usual care group. Of these, the majority was male (75.8% in the usual care group vs. 64.7% in the mandatory screen group). Most of the patients were young, with 68.6% and 67.2% in the 25-45 year age range in the usual care and mandatory screen groups, respectively. In the mandatory screen group, 53 patients (43.4%) tested positive for any substance and 45 (36.9%) tested positive for a substance of abuse; 8 patients (6.6%) tested positive for alcohol only.

Guide		Comments
I.	**Are the results valid?**	
A.	**Did experimental and control groups begin the study with a similar prognosis (answer the questions posed below)?**	
1.	Were patients randomized?	Yes. The authors report that patients were randomized, though the method of randomization was not provided (sequence generation).
2.	Was randomization concealed (blinded)?	Uncertain. The authors do not discuss the method of allocation concealment.
3.	Were patients analyzed in the groups to which they were randomized?	Yes. Patients were randomized to either mandatory drug screening (in which case all patients received a drug screen) or usual care (in which was the decision to obtain a drug screen was at the discretion of the psychiatrist). Once randomized, patients were analyzed in their groups, regardless of whether or not a drug screen was ordered.
4.	Were patients in the treatment and control groups similar with respect to known prognostic factors?	Mostly yes. Patients were similar with respect to age, race, status (voluntary vs. involuntary), and the presence of suicidal ideation. The percent of patients who were male was higher in the usual care group compared to the mandatory screen group (75.8% vs. 64.7%, p = 0.016). This is unlikely to be of any clinical significance.
B.	**Did experimental and control groups retain a similar prognosis after the study started (answer the questions posed below)?**	
1.	Were patients aware of group allocation?	No. Clinicians were blinded to group allocation, and hence (while not specifically mentions) it is likely that patients were blinded as well.
2.	Were clinicians aware of group allocation?	No. "Psychiatrists, who were blind to patients' consent and randomization status, ordered urine drug screens for patients in both groups if in their clinical judgment a screen was needed." (p. 475)
3.	Were outcome assessors aware of group allocation?	Uncertain. The authors do not mention whether data collectors or outcome assessors were blinded to group allocation.
4.	Was follow-up complete?	Yes. The primary outcome was disposition from the hospital, and outcomes data was available for all enrolled patients.
II.	**What are the results**	

<table>
<tr><td></td><td>(answer the questions posed below)?</td><td></td></tr>
<tr><td>1.</td><td>How large was the treatment effect?</td><td>

There was no statistically significant difference in disposition between the two groups (Table 1).

Table 1. Disposition for each group
<table>
<tr><td></td><td>Usual care (%)</td><td>Mandatory screen (%)</td></tr>
<tr><td>Home</td><td>32 (16.5)</td><td>33 (16.7)</td></tr>
<tr><td>County inpatient unit</td><td>46 (23.7)</td><td>43 (21.7)</td></tr>
<tr><td>County dual diagnosis unit</td><td>24 (12.4)</td><td>23 (11.6)</td></tr>
<tr><td>Other inpatient unit</td><td>47 (24.2)</td><td>53 (26.7)</td></tr>
<tr><td>Outpatient mental health treatment</td><td>25 (12.9)</td><td>28 (14.4)</td></tr>
<tr><td>Outpatient substance abuse treatment</td><td>7 (3.6)</td><td>12 (6.1)</td></tr>
<tr><td>Other</td><td>13 (6.7)</td><td>6 (3.0)</td></tr>
</table>

There was no difference in length of stay after admission to an inpatient unit in the county hospital between the usual care and mandatory screen groups.
In the mandatory screen group, there were only 5 patients (10.2%) who both denied substance abuse and were not suspected of substance abuse who tested positive.
In logistic regression, patients who tested positive for cocaine use were less likely to be delusional (OR 0.23, p = 0.005) and less likely to be violent (OR 0.22, p = 0.05), but were more likely to be suicidal (OR 2.97, p = 0.01).
The presence of a formal thought disorder was associated with an increased likelihood in the clinician ordered a drug screen (OR 0.38, p = 0.03).

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<tr><td>2.</td><td>How precise was the estimate of the treatment effect?</td><td>There were no 95% confidence intervals reported.</td></tr>
<tr><td>III.</td><td>How can I apply the results to patient care (answer the questions posed below)?</td><td></td></tr>
<tr><td>1.</td><td>Were the study patients similar to my patient?</td><td>No. There are several important differences between patients in this study and those that we see. First, this</td></tr>
</table>

		study was conducted nearly 20 years ago, and several new drugs of abuse have entered the market in the interim. In addition, the availability of both inpatient and outpatient psychiatric care has changed dramatically over that time period. Additionally, these were patients already being evaluated by a psychiatrist, rather than being screened by an emergency physician. The decision to order drug screen testing is therefore more reliably based on the psychiatric assessment and disposition plan already in place. Despite these limitations, the results of this study are not entirely useless in our setting, as they demonstrate that mandatory routine drug screens do not, in and of themselves, alter disposition. The decision to order such testing should instead be made in conjunction with the consulting psychiatrist after psychiatric evaluation (when possible).
2.	Were all clinically important outcomes considered?	No. The authors did not evaluate any potential change in the medical management of these patients, though it is unlikely there would have been many instances when medical management was necessary. Cost was also not evaluated.
3.	Are the likely treatment benefits worth the potential harm and costs?	No. Given that the routine ordering or drug screens did not alter patient disposition, and given the fairly high accuracy of combined physician assessment and patient admission of substance abuse, it does not appear that mandatory drug screening is warranted in psychiatric patients. Just under half (44%) of the patients in the usual care group underwent drug screen testing. A significant savings in terms of time and money could be made by eliminating the need for routine testing.

Limitations:

1. **Failure to comply with standards for reporting methodology (CONSORT statement)**
    a. **Method of randomization not provided (sequence generation).**
    b. **Details of allocation concealment not provided.**
    c. **Details of data abstraction and blinding of investigators not provided.**
2. **Changes in the availability and implementations of psychiatric resources (both outpatient and inpatient) since the study was conducted potentially limit the**

validity of the results in our current environment (HealthAffairs, USA TODAY, Treatment Advocacy Center).

3. **The study outcome was limited primarily to final disposition, and did not assess any changes in the medical management of patients or changes in the psychiatric care provided.**

Bottom Line:

In this randomized controlled trial of psychiatric patients, mandatory drug screening was found to have no effect on patient disposition or length of stay after inpatient admission compared to screening based on psychiatrist assessment. The study's methodological shortcoming and changes in the landscape of psychiatric care in this country since the study's publication may limit the applicability of the results.