CAT Assignment (Critically Appraised Topic)

Title: Will timing of screening results given to primary care providers affect patient outcome?

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1. Clinical Question: Will providing physicians with screening results from CAGE questionnaire, preliminary assessment results, and specific individualized recommendations concerning patients identified as current “hazardous drinkers” before the seeing the patient increase the likelihood of a patient physician discussion of alcoholism and affect their subsequent alcohol use?

PICO Parts:
P – Patients identified as current “hazardous drinkers”
I – Physician received patient screening results from CAGE questionnaire, preliminary assessment, and specific individual recommendations
C – Physician did not receive any patient information from the study prior to seeing the patient
O – Better likelihood of physician patient discussion of alcoholism and effect on subsequent alcohol use

2. Search Strategy: Mass Screening AND Alcoholism (MeSH term) with limits human and English
   a. Database(s) searched: Ovid Medline
   b. Keyword Search Terms used: Mass Screening
   c. MeSH Search Terms used: Alcoholism Limits: Humans, English

3. Methods Description (setting, population, sample size, study design):
Setting: The study was performed in an urban, academic, primary care practice in Boston, Massachusetts affiliated with Boston University Medical Center.

Population: All physicians and residents in the practice were eligible except authors. Physicians who had seen less than 80 patients in the previous three years and who foresaw leaving practice within six months were excluded. Eligible patients were 1) current hazardous drinkers (consumed alcohol in the past month and answered yes to one or more questions on CAGE screening), or 2) consumers of hazardous amounts of alcohol over past 30 days. “Hazardous amounts” was defined as greater than 4 drinks per occasion or 14 per week for men, and 3 and 7 drinks, respectively, for women.

Sample size: 50 eligible physicians were randomly placed. The control group included 24 physicians and the intervention group 26 physicians. Only 20 randomly selected physicians were in the final study. 6 physicians lacked patient enrollment and were replaced by eligible physicians who had been previously assigned but not included.

Of 4,143 patients completing a screener, 565 were eligible. 253 did not enroll; 235 declined participation and 18 provided informed consent but had no time before their visit. 312 patients enrolled; 144 were allocated to control physicians and 168 to intervention physicians. 9 patients were lost to follow-up because of time constraints or loss of interest, three from the control group and six from the intervention group.

Both groups had an average age of 43, predominantly male, with equal unemployment rates, median incomes and similar percentage of participants with a high school education. Groups were in similar stages of readiness to change their behavior and in percentage of participants who wanted alcohol advice from a physician.

Study design: The study was a cluster randomized control trial with randomization at the physician level to prevent risk of contamination from randomization at patient level.

4. Methods Interpretation (Validity):
a. Was there an independent “blind” comparison with a reference standard?
No. Physicians were randomly assigned (by computer generation) to the intervention or control group; however no information about prior alcohol use was given until patient visit. Patients and researchers were not blinded.

b. Did the sample include an appropriate spectrum of patients to whom the diagnostic/screening test will be applied in clinical practice?
Yes. All enrolled faculty or resident primary care physicians had seen 80 patients or more in the previous 3 years, in an urban academic practice. All physicians were of similar age, race, sex, level of training, and year of medical school graduation. All patients enrolled were English or Spanish speakers and answered yes during CAGE screening questions or drank “hazardous” amounts in the past month.

c. Did results of the diagnostic/screening test being evaluated influence the decision to perform the reference standard?
The lack of blinding introduced interview and patient bias. Although physicians in the intervention group were more likely to counsel patients about drinking, the high incidence of control group counseling suggests physicians were aware that they were being observed.

d. Were the methods for performing the diagnostic/screening test described in sufficient detail to permit replication?
Yes. There was sufficient information provided including clear details about selecting “hazardous drinkers” and appropriate physicians. Data analysis descriptions were clear. SAS software version 8.1 was used along with generalized estimating equations to adjust for physician patient clustering.

5. Results: Significant differences exist in the effects intervention between faculty physician versus resident physicians based primary counseling outcomes: discussion of alcohol use, advice about alcohol use, and alcohol counseling. In both the control and intervention group, faculty physicians were more likely to employ all three counseling methods. Faculty in the intervention group provided counseling on secondary outcome components. The intervention had minimal effect on residents in the interventions group. Residents in the intervention provided less primary counseling than residents in the control group. Intervention group physicians initiated discussion of alcohol use more than those in the control group.

Comments on Study Results: The effectiveness of providing physicians with information about their patients’ alcohol use, to promote discussion and counseling, varied based on the physician's level of training. Faculty primary care physicians were more likely than resident physicians to discuss alcohol use when provided with alcohol screening information pertaining to their patients. The intervention seemed to have a profound effect on faculty physicians discussing alcohol with their patients but no effect on residents discussing alcohol use with their patients. The effect the intervention had on alcohol consumption could not be definitively assessed due to several limitations of the study including but not limited to lack of blinding and loss to follow up.

6. Translational applications (How does this study apply to your patients?):
The results from the study showed that having access to alcoholism screening results such as CAGE questionnaire prompted faculty physicians to discuss alcohol use, give advice on alcohol use, and provide alcohol counseling with hazardous drinkers, whereas resident physicians were less likely to do so. The results also showed that faculty physicians in the intervention group gave more counseling than the ones in the control group. With these results, we can apply this to clinical setting by making patients fill out CAGE questionnaire and other screening tests for alcohol abuse and then assigning those with higher risk for alcoholism with faculty physicians instead of residents to improve the diagnosis of alcoholism in the hospital setting.

7. Reference: