

# Screening as a First Step to Intervention: Comparison of Performance of Screening Instruments among Emergency Department Patients in Argentina, Mexico, and the U.S.

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# PURPOSE



To compare the performance (sensitivity and specificity) of a number of brief screening instruments for alcohol dependence among ER patients in Argentina, Mexico, and the United States

# METHODS



Samples were injured and non-injured ER patients 18 years and older.

**Argentina:** ER in Mar del Plata  
*n*=779 (83% current drinkers)  
92% completion rate

**Mexico:** 3 ERs in Mexico City  
*n*=1,411 (36% current drinkers)  
93% completion rate

**United States:** ER in Santa Clara, CA  
*n*=1,429 (60% current drinkers)  
73% completion rate

# INSTRUMENTS



## Screening Instruments:

- CAGE
- BMAST
- AUDIT
- TWEAK
- RAPS4

## Diagnostic Instruments:

- ICD-10 & DSM-IV criteria (CIDI) for alcohol dependence

## CAGE Items ( $\geq 2$ )



1. **Have you ever felt you should cut down on your drinking?**
2. **Have people annoyed you by criticizing your drinking?**
3. **Have you ever felt bad or guilty about your drinking?**
4. **Have you ever had a drink first thing in the morning to steady your nerves or get rid of a hangover?**

## Brief MAST Items, weighted ( $\geq 6$ )



1. Do you feel you are a normal drinker? (1)
2. Do friends or relatives think you are a normal drinker? (1)
3. Have you attended a meetings of Alcoholics Anonymous [AA]? (5)
4. Have you lost friends or girlfriends or boyfriends because of drinking? (2)
5. Have you gotten into trouble at work because of drinking? (2)
6. Have you neglected your obligations, your family, or your work for two or more days in a row because you were drinking? (2)
7. Have you had a delirium tremens (DTs), severe shaking, heard voices or seen things that weren't there after heavy drinking? (2)
8. Have you gone to anyone for help about your drinking? (5)
9. Have you been in a hospital because of drinking? (5)
10. Have you been arrested for drink driving or driving after drinking? (2)

# AUDIT Items, weighted 0-4 ( $\geq 8$ )

1. How often do you have a drink containing alcohol?
2. How many drinks containing alcohol do you have on a typical day when you are drinking?
3. How often do you have six or more drinks on one occasion?
4. How often during the least year have you found that you were not able to stop drinking once you had started?
5. How often during the last year have you failed to do what was normally expected from you because of drinking?
6. How often during the last year have you needed a first drink in the morning to get yourself going after a heavy drinking session?
7. How often during the last year have you had a feeling of guilt or remorse after drinking?
8. How often during the last year have you been unable to remember what happened the night before because you had been drinking?
9. Have you or someone else been injured as a result of your drinking?
10. Has a relative or friend or a doctor or other health worker been concerned about your drinking?

## TWEAK Items ( $\geq 3$ )



1. **How many drinks can you hold? If  $>5$  (2)**
2. **Have close friends or relatives complained about your drinking in the past year? (2)**
3. **Do you sometimes take a drink in the morning when you first get up? (1)**
4. **Do you sometimes feel the need to cut down on your drinking? (1)**
5. **In the last 12 months, has a friend or family member ever told you about things you said or did while you were drinking that you could not remember? (1)**

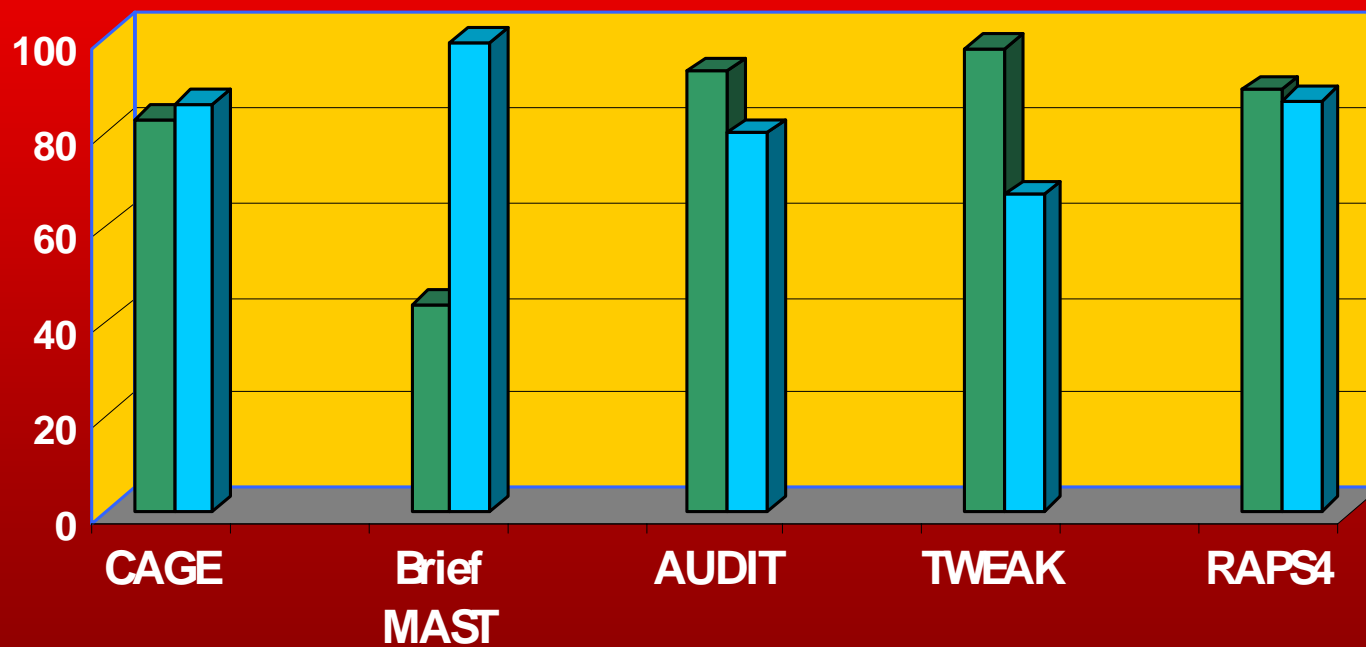
# The Rapid Alcohol Problems Screen (RAPS4)



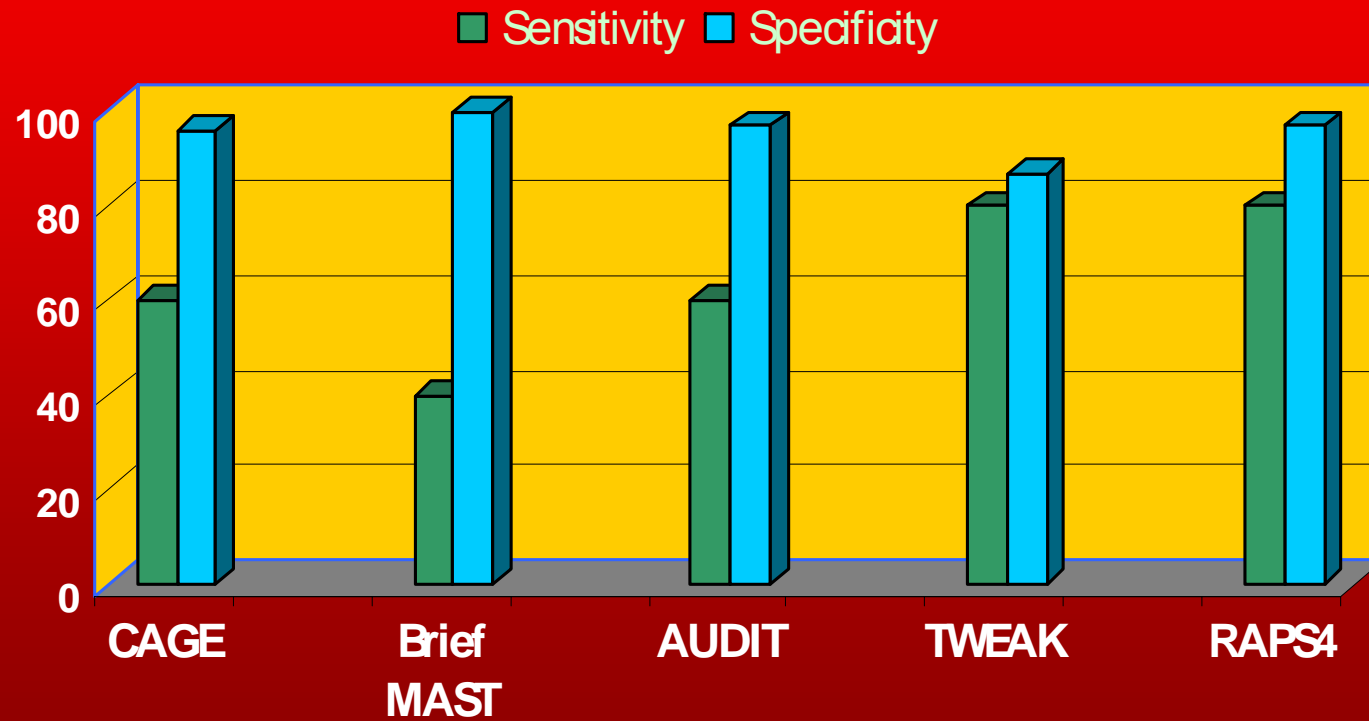
1. During the last year have you had a feeling of guilt or remorse after drinking? (**R**emorse)
2. During the last year has a friend or family member ever told you about things you said or did while you were drinking that you could not remember? (**A**mnnesia)
3. During the last year have you failed to do what was normally expected from you because of drinking? (**P**erform)
4. Do you sometimes take a drink when you first get up in the morning? (**S**tarter)

Sensitivity and Specificity for Alcohol Dependence among Current Drinkers: Total Sample, Argentina

■ Sensitivity ■ Specificity

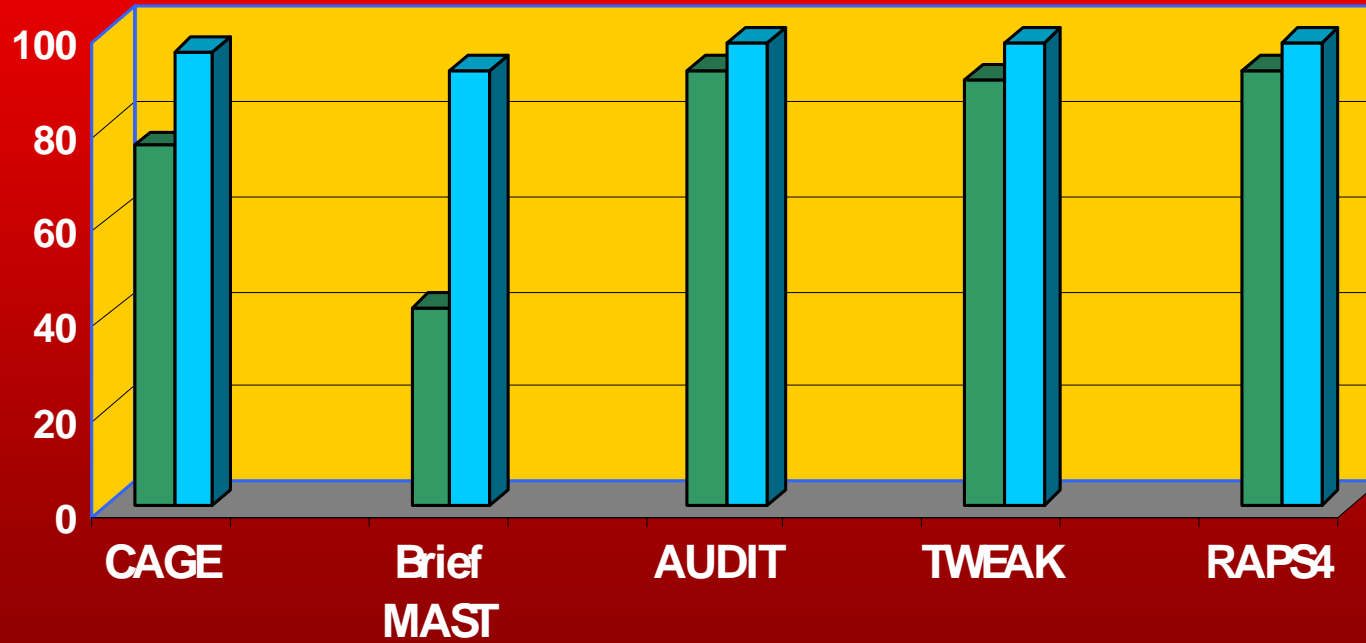


Sensitivity and Specificity for Alcohol Dependence among Current Drinkers: Female Sample, Argentina

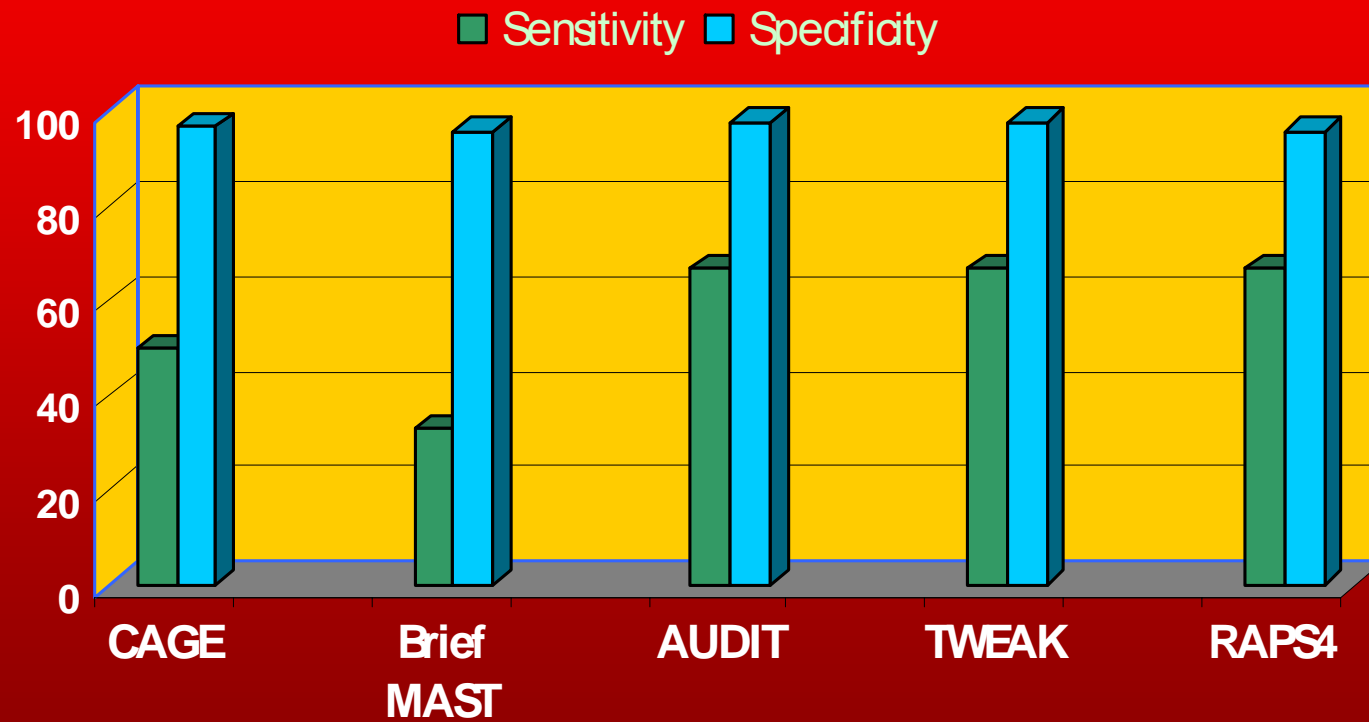


Sensitivity and Specificity for Alcohol Dependence among  
Current Drinkers: Total Sample, Mexico

■ Sensitivity ■ Specificity

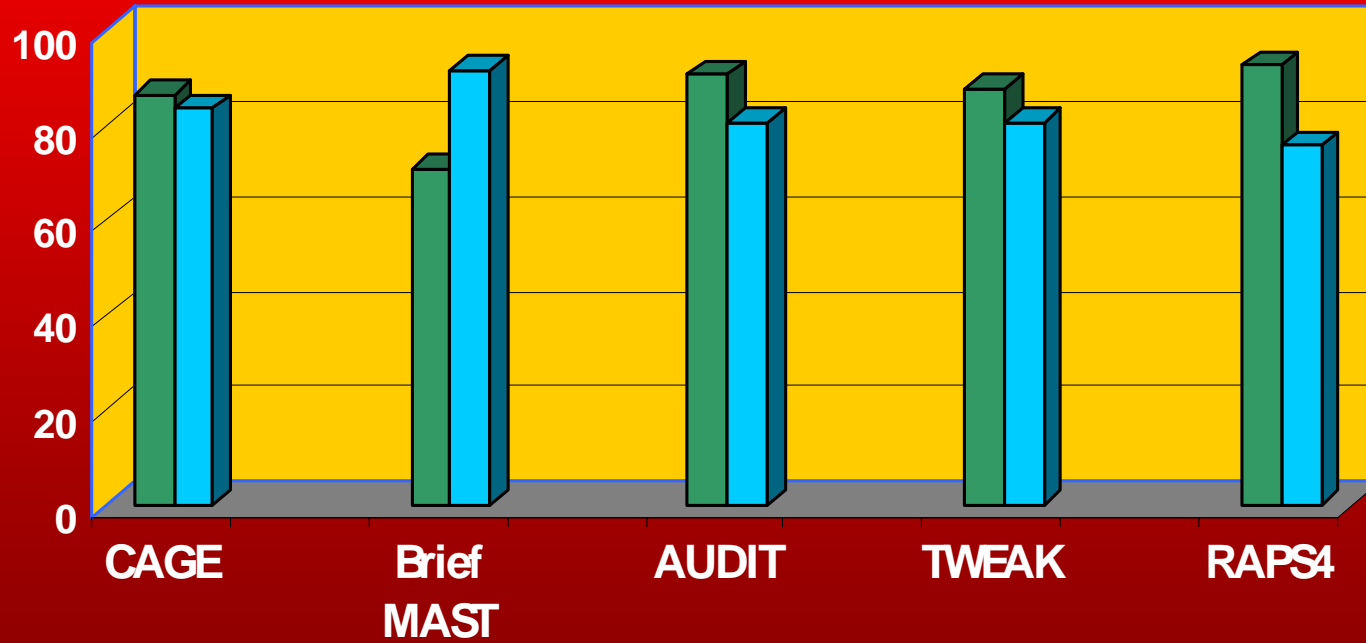


Sensitivity and Specificity for Alcohol Dependence among  
Current Drinkers: Female Sample, Mexico

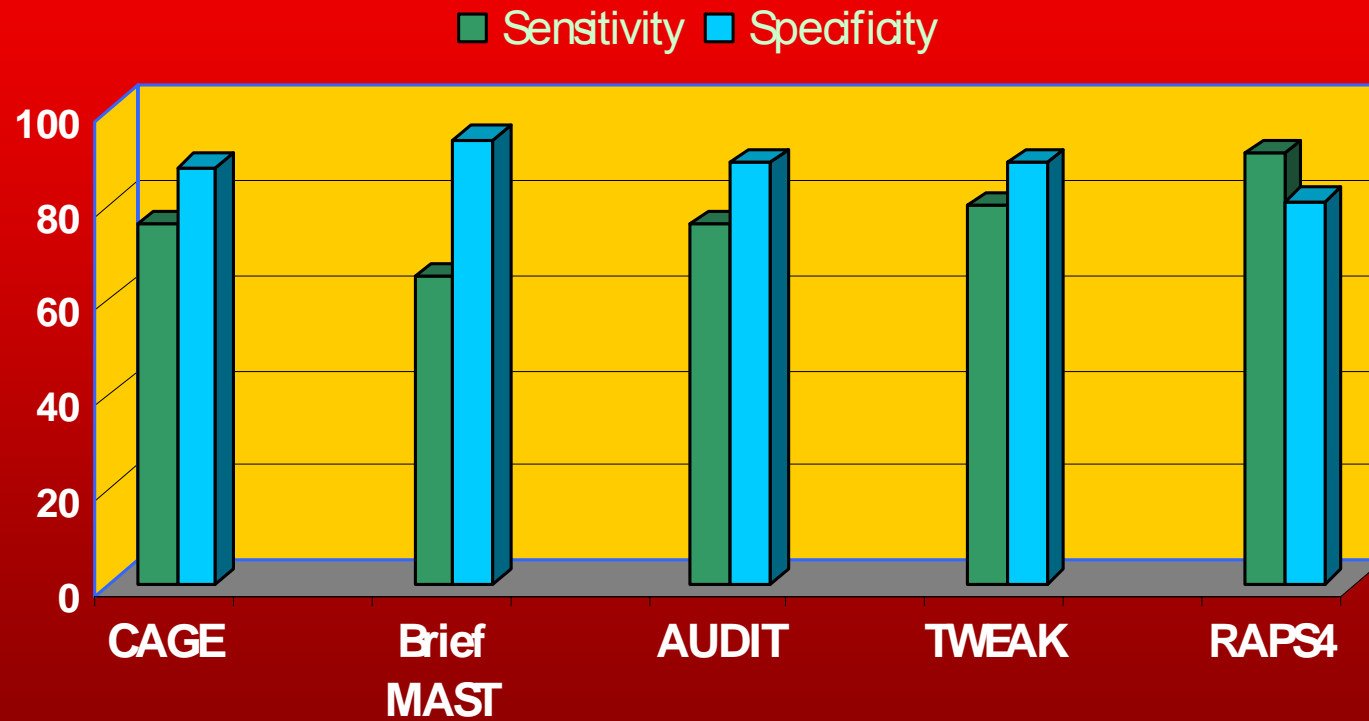


Sensitivity and Specificity for Alcohol Dependence among Current Drinkers: Total Sample, United States

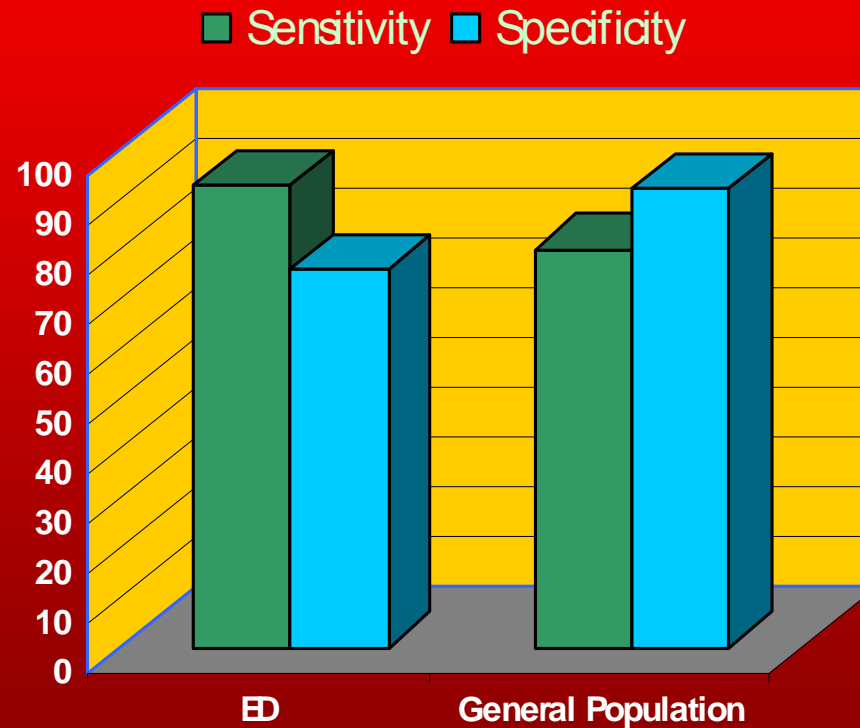
■ Sensitivity ■ Specificity



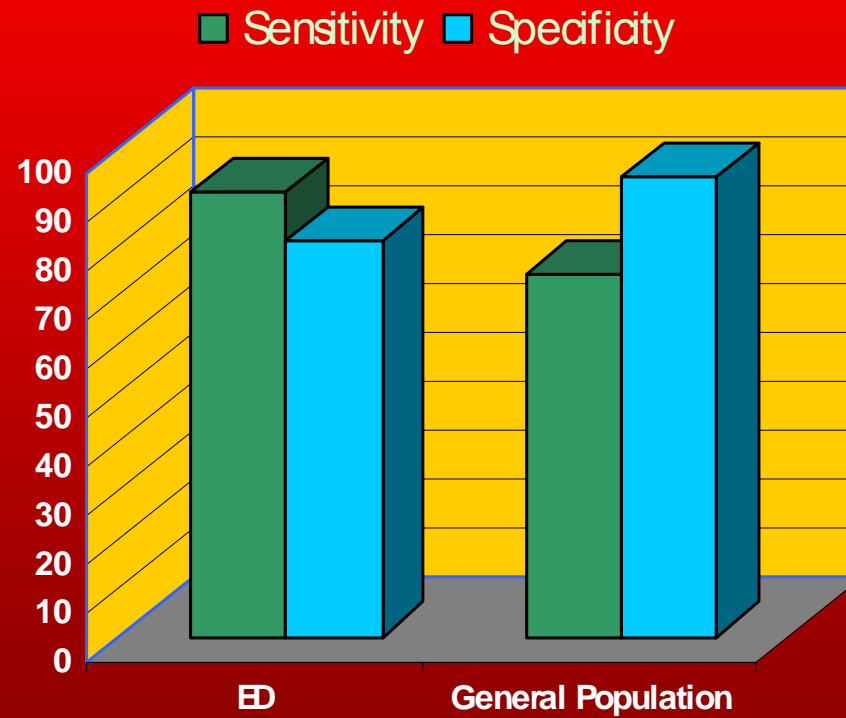
Sensitivity and Specificity for Alcohol Dependence among Current Drinkers: Female Sample, United States



Sensitivity and Specificity of RAPS4 for Alcohol Dependence among Current Drinkers: General Population—Total Sample, United States



Sensitivity and Specificity of RAPS4 for Alcohol Dependence among Current Drinkers: General Population—Female Sample, U.S.



# SUMMARY



- The **AUDIT** and **RAPS4** were both found to have highest sensitivity (.88 or above) at a reasonable level of specificity (above .80) across all three countries.
- Performance of the **CAGE** was good in the United States.
- Performance of the **TWEAK** was good in Mexico and the United States.
- Performance of the **Brief MAST** was uniformly poor across all countries.
- None of the screening instruments performed as well for females as for the total sample.
- Performance of the **RAPS4** was better than other instruments for females across all three countries, followed by the **TWEAK**.

# CONCLUSIONS



- ✓ These data suggest that screening instruments may perform better in U. S. populations than in other countries.
- ✓ The RAPS4 may provide the best choice for consistently good performance for both males and females across countries and cultures.