ACTIVITY 2: A Decision-Making Process for Selecting an Assessment Tool for Diagnosis

Note: Complete the Activity from the Test Validity Rests in Evidence topic prior to completing this activity. You will need the articles that you used and the Excel file comparison table that you created.

Table 1

Comparison of the Diagnostic Accuracy Results Found in Two Different Diagnostic Accuracy Studies (from the Test Validity Rests in Evidence activity).

| Author, year | Diagnostic System | Index Test | Target Disorder | Reference Standard Test | Sensitivity | Specificity | Index Test. Vs. Reference Standard Correlation Coefficients (p-values) | Area Under the Curve (p- value) |
|-----------------|----------------------|---------------|--------------------|-------------------------------|-------------|-------------|--|--|
| | 1 | | | | | | | |
| | 2 | | | | | | | |

Part 1 Instructions

The generalizability of the data from a diagnostic accuracy study is addressed in the following questions. You should answer these questions for each diagnostic accuracy study under review.

- 1. Were the components of the diagnostic system (index test, target disorder, "gold" or reference standard test) clearly described to allow for replication?
- 2. Does the target disorder have an unambiguous definition?
- 3. Was the "gold" or reference standard test appropriate?
- 4. Was an argument presented for the selection of the "gold" or reference standard test? If yes, what was the authors' rationale give for this selection?
- 5. Is there empirical support for the reference standard test? In other words, was the reference standard test used as an index test in a previous diagnostic accuracy study? If so, what was its diagnostic accuracy.
- 6. If the reference standard test does not have empirical support, is its suitability self-evident?
- 7. Was the index test included as part of the reference standard test or test battery?

Part 2 Instructions

Consider the following questions for Diagnostic Accuracy Comparisons across Index Tests:

- 1. Does the design of the diagnostic accuracy studies allow for the generalizability of the results? If no, then comparisons across tests may be questionable.
- 2. When comparing diagnostic accuracy performances across tests, were the target disorders the same? It is not appropriate to presume that the sensitivity and specificity of an index test for one target disorder is relevant for the detection of a different target disorder.
- 3. Which tests possess acceptable diagnostic accuracy for the target disorder(s) in question?

References