

## B1. MEASURES OF UNPROTECTED ANAL/VAGINAL INTERCOURSE

### USE WHEN YOU WANT TO EVALUATE:

#### Outcomes :

- ✓ Healthy behavior: (reduced) unprotected anal intercourse

#### Intervention types *(NB: these questions are about intimate behaviors and may be most appropriate for longer-term interventions)*

- ✓ Skill building sessions to increase capacity to engage in risk reduction behaviors
- ✓ Outreach to priority populations to increase their capacity to engage in risk reduction behaviors

#### Worked well with these populations:

- ✓ MSM

#### Interventions for:

- ✓ HIV
- ✓ STIs

### DESCRIPTION

#### Description:

Frequency of unprotected intercourse (as reported by participants) is a very widely used measure of transmission of risk levels (in surveillance) and intervention outcomes. A distinction is usually made between behavior with casual and steady partners. Some studies assess the consistency of condom use as a more positively-focused alternative.

#### WHY THIS TOOL MIGHT BE USEFUL FOR COMMUNITY-BASED INTERVENTIONS

- ✓ Many surveillance systems use a measure of this type, so it's possible to compare outcomes for your organization to data from a bigger population.
- ✓ Several different ways to calculate these types of measures are included, for different subgroups of people who are having sex in various circumstances. Populations that each tool could be used with are suggested with the measures.
- ✓ Suitable for before and after testing of a program's effects .
- ✓ Easily completed, although some versions are more complicated to analyse.
- ✓ Could easily be programmed to be given electronically.

#### Developed in:

- ✓ English

### ADMINISTRATION, DESIGN, SCORING and ANALYSIS CONSIDERATIONS

#### ADMINISTRATION

- These questions should take less than 10 minutes to fill out each time.
- Tell participants why you are using the questionnaire, being clear that it is to evaluate the intervention to help make it better, and not them.
- Participation should be voluntary, so tell participants that it is ok if they do not complete the questionnaire, and assure participants that there are no negative consequences if they don't want to complete it. Give them a way to do something else at the same so that the confidentiality of this decision is protected. (For further information on ethical considerations in carrying out evaluations, see [Ethics Resources](#))
- If used in a group setting, ensure that people feel safe and that the space is confidential; no one can see their answers (can see their screen or papers), and put completed questionnaires into a sealed envelope.

## B1. MEASURES OF UNPROTECTED ANAL/VAGINAL INTERCOURSE

### DESIGN OPTIONS

**Measuring before and after intervention** (this is the best option because it measures real change)

1. **WHEN TO USE:** Have the questionnaires filled out before the intervention or at the very beginning of it, and again after, as close to the end as possible (often the very last session is not suitable because it may be a celebration, or have low attendance).

2. **LINKING RESULTS:** Include a way to match the same person's pre and post questionnaires while protecting confidentiality, for example using a [password](#) or unique identifier that respondents generate and remember.

3. **SCORING:** see instructions for each measure

4. **ANALYSIS:** Compare the pre and post scores for each individual, noting how many people improve, how many stay the same, and how many get worse.

**Measuring change only after the end of an intervention:** (this is the second best option, because people often think the intervention has had more effect than it really did)

1. Adapt the time periods of the questionnaire so that it asks people what their answer is now and what it was before the intervention

*For example, for the HIV Risk Score ask: "In the three months before you started this program, how many times did you practice anal penetration without a condom".... AND "In the last three months, how many times did you..." (see an [example](#))*

2. **SCORING:** see instructions for each measure

3. **ANALYSIS:** Compare the pre and post scores for each individual, noting how many people say they improve, how many stay the same, and how many get worse.

**B1. (A) HIV Risk Score**

- This is the most general measure. It does not take level of sexual activity into account, nor the types of relationships (casual versus steady). Use when you are measuring a general population or want to compare to a general population.
- Note that the recall period of 12 months is long for people to remember accurately. We recommend that it be changed to either 3 or 6 months so that recall is more accurate.

**HIV Risk Score**

In the last 12 months (or 3 or 6: see above), how many times did you practice anal penetration without a condom:	
With a partner whose HIV status is different from yours?	_____ times
With a partner whose HIV status you did not know?	_____ times

Dubois-Arber, F., Jeannin, A., Locicero, S., & Balthasar, H. (2012). **Risk reduction practices in men who have sex with men in Switzerland: Serosorting, strategic positioning, and withdrawal before ejaculation.** Archives of Sexual Behavior, 41(5), 1263-1272

**SCORING:** Create each person’s risk score by adding the two numbers. The lowest possible score is 0, and there is no highest limit.

**B1. (B) Unprotected Anal Intercourse (UAI ) Index**

- This is a general measure of risky behavior, for MSM only. It takes level of sexual activity into account to some extent by asking about the proportion of time condoms were used; and because it asks about condom use, may be better for measuring the effects of interventions that are aiming to promote consistent condom use.
- Because this measure distinguishes between casual and steady partners, it could be used when the intervention is targeting MSM whose HIV risk is associated with casual partners:
  - young MSM, especially those experimenting with sexual identity
  - male sex trade workers
- Note that the recall period of 6 months is long for people to remember accurately. We recommend that 3 months be used for more accurate recall.

**B1. (C) UAI Index**

In the last 6 (3- see above) months, how often did you use a condom:					
With your steady partner, when you were the insertive partner (top)?	Never	Mostly not	Sometimes	Most of the times	Always
With your steady partner, when you were the receptive partner (bottom)?	Never	Mostly not	Sometimes	Most of the times	Always
With casual partners, when you were the insertive partner (top)?	Never	Mostly not	Sometimes	Most of the times	Always
With casual partners, when you were the receptive partner (bottom)?	Never	Mostly not	Sometimes	Most of the times	Always

Wolfers, M. E. G., De Wit, J. B. F., Hospers, H. J., Richardus, J. H., & De Zwart, O. (2009). **Effects of a short individually tailored counselling session for HIV prevention in gay and bisexual men receiving hepatitis B vaccination.** BMC Public Health,

**SCORING:** Create each person’s UIA index by:

- For each question, assigning a value of :
  - 0 if the answer was “Most of the times” or “Always”
  - 1 if the answer was “Sometimes”
  - 2 if the answer was “Never” or “Mostly not”.
- Add up the values for the 4 questions. Total values can range from 0 to 8.
- In addition, if the person is HIV negative, always assign a value of 0 if they engaged in UAI with a steady partner who had also tested HIV-negative AND they had agreements about safe sex outside the relationship.

**B1. (D) Sexual risk behavior scores: Condom use during Unprotected Insertive (UIAI) and Receptive (URAI) Anal Intercourse**

- This more complex measure takes several factors into account: the nature of the relationships, the partner’s HIV status, and the insertive or receptive role in anal sex; it also includes sex between men and women.
- This measure could be useful in intervention targeting male populations where sexual activity between men is stigmatized or hidden, such as MSM who are married to women or ethno-cultural MSM.
- The three month recall period is recommended as the most accurate.

**B1. (D) Sexual risk behavior scores: Condom use during Unprotected Insertive (UIAI) and Receptive (URAI) Anal Intercourse**

<b>In the last 3 months, with your main* male sex partner:</b>
How many times did you have insertive anal intercourse? ____ times (put a number between 0 and 999) Among these times, how many times did you use a condom? ____ times (put a number between 0 and 999) Among these times, how many times did you ejaculate? ____ times (put a number between 0 and 999)
How many times did you have receptive anal intercourse? ____ times (put a number between 0 and 999) Among these times, how many times did you use a condom? ____ times (put a number between 0 and 999) Among these times, how many times did he ejaculate? ____ times (put a number between 0 and 999)
<b>In the last 3 months, with casual male sex partners:</b>
<b>When your casual sex partner was HIV-positive:</b>
How many times did you have insertive anal intercourse? ____ times (put a number between 0 and 999) Among these times, how many times did you use a condom? ____ times (put a number between 0 and 999) Among these times, how many times did you ejaculate? ____ times (put a number between 0 and 999)
How many times did you have receptive anal intercourse? ____ times (put a number between 0 and 999) Among these times, how many times did you use a condom? ____ times (put a number between 0 and 999) Among these times, how many times did he ejaculate? ____ times (put a number between 0 and 999)
<b>When your casual sex partner was HIV -negative:</b>
How many times did you have insertive anal intercourse? ____ times (put a number between 0 and 999) Among these times, how many times did you use a condom? ____ times (put a number between 0 and 999) Among these times, how many times did you ejaculate? ____ times (put a number between 0 and 999)

How many times did you have receptive anal intercourse? \_\_\_\_ times (put a number between 0 and 999)  
Among these times, how many times did you use a condom? \_\_\_\_ times (put a number between 0 and 999)  
Among these times, how many times did he ejaculate? \_\_\_\_ times (put a number between 0 and 999)

**If you didn't know the HIV status of your casual male sex partner:**

How many times did you have insertive anal intercourse ? \_\_\_\_ times (put a number between 0 and 999)  
Among these times, how many times did you use a condom? \_\_\_\_ times (put a number between 0 and 999)  
Among these times, how many times did you ejaculate? \_\_\_\_ times (put a number between 0 and 999)

How many times did you have receptive anal intercourse ? \_\_\_\_ times (put a number between 0 and 999)  
Among these times, how many times did you use a condom? \_\_\_\_ times (put a number between 0 and 999)  
Among these times, how many times did he ejaculate? \_\_\_\_ times (put a number between 0 and 999)

Sources: Wilton, L., Herbst, J. H., Coury-Doniger, P., Painter, T. M., English, G., Alvarez, M. E., . . . Carey, J. W. (2009). **Efficacy of an HIV/STI prevention intervention for black men who have sex with men: Findings from the many men, many voices (3MV) project.** *AIDS and Behavior*, 13(3), 532-544.

\*Golin et al used this definition of a "primary relationship": "someone you have lived with or seen a lot, and to whom you have felt a special emotional commitment." Dubois-Archer et al (2012) defined casual partner as any sexual partner that the participant did not consider to be his steady partner.

**SCORING:**

- For any answer that is between 100 and 999, replace that person's answer with the highest one among all the other participants that is less than 100. This is a statistical manoeuver (called Winsorizing) that takes care of extreme or outlier scores that will unfairly skew all the other results.
- Scoring unprotected anal intercourse: Depending on what your intervention is targeting, for each person, calculate:
  - With their main partner:
    - Total number of times of unprotected anal intercourse (in the Wilton study, the average number of times was 3.9 before the intervention, and 2.1 after the intervention)
    - Total number of times of unprotected receptive anal intercourse
    - Total number of times of unprotected insertive anal intercourse
  - With casual partners:
    - Total number of times of unprotected anal intercourse (in the Wilton study, the average number of times was 3.5 before the intervention, and 1.1 after the intervention)
    - Total number of times of unprotected receptive anal intercourse
    - Total number of times of unprotected insertive anal intercourse
- Scoring condom use: classify each individual as using condoms based on the percentage of times condoms were used for each time of act and partner. Add up the number of times condoms were used and divide that number by the total number of times of intercourse. Then multiply that number by 100;
  - Then divide the percentages into 3 groups:
    - Always: 100% of the acts,
    - Sometimes: between 1 and 99% of the acts, or
    - Never: 0 % of the acts

The article reporting this tool does not explain how the ejaculation measure was used, but presumably, the number of unprotected acts with no ejaculation could be removed from the number of unprotected acts, as it would have less (but not zero) HIV transmission risk.

**B1. (E) UAVI (Unprotected anal/vaginal intercourse) and TRB (Transmission Risk Behavior) Indices, for PLWHIV**

This tool is specific to PLWHIV, both male and female, so would be appropriate for interventions that are trying to reduce transmission risk from them to others, as well as re-infection risk.

**B1. (E) UAVI (Unprotected anal/vaginal intercourse) and TRB (Transmission Risk Behavior) Indices, for PLWHIV**

**For HIV-positive men:**

In the last 3 months:
How many male sex partners did you have who were HIV positive? ____ partners How many times did you have insertive anal intercourse with these partners? ____ times Among these times, how many times did you use a condom? ____ times How many times did you have receptive anal intercourse with these partners? ____ times Among these times, how many times did you use a condom? ____ times
How many male sex partners did you have who were HIV negative? ____ partners How many times did you have insertive anal intercourse with these partners? ____ times Among these times, how many times did you use a condom? ____ times How many times did you have receptive anal intercourse with these partners? ____ times Among these times, how many times did you use a condom? ____ times
How many male sex partners did you have whose HIV status you did not know? ____ partners How many times did you have insertive anal intercourse with these partners? ____ times Among these times, how many times did you use a condom? ____ times How many times did you have receptive anal intercourse with these partners? ____ times Among these times, how many times did you use a condom? ____ times
How many female sex partners did you have who were HIV positive? ____ partners How many times did you have anal intercourse with these partners? ____ times Among these times, how many times did you use a condom? ____ times How many times did you have vaginal intercourse with these partners? ____ times Among these times, how many times did you use a condom? ____ times
How many female sex partners did you have who were HIV negative? ____ partners How many times did you have anal intercourse with these partners? ____ times Among these times, how many times did you use a condom? ____ times How many times did you have vaginal intercourse with these partners? ____ times Among these times, how many times did you use a condom? ____ times
How many female sex partners did you have whose HIV status you did not know? ____ partners How many times did you have anal intercourse with these partners? ____ times Among these times, how many times did you use a condom? ____ times How many times did you have vaginal intercourse with these partners? ____ times Among these times, how many times did you use a condom? ____ times

### For HIV-positive women:

In the last 3 months:
How many male sex partners did you have who were HIV positive? ____ partners How many times did you have vaginal intercourse with these partners? ____ times Among these times, how many times did you use a condom? ____ times How many times did you have anal intercourse with these partners? ____ times Among these times, how many times did you use a condom? ____ times
How many male sex partners did you have who were HIV negative? ____ partners How many times did you have vaginal intercourse with these partners? ____ times Among these times, how many times did you use a condom? ____ times How many times did you have anal intercourse with these partners? ____ times Among these times, how many times did you use a condom? ____ times
How many male sex partners did you have whose HIV status you did not know? ____ partners How many times did you have vaginal intercourse with these partners? ____ times Among these times, how many times did you use a condom? ____ times How many times did you have anal intercourse with these partners? ____ times Among these times, how many times did you use a condom? ____ times

Sources: Golin, C. E., Earp, J. A., Grodensky, C. A., Patel, S. N., Suchindran, C., Parikh, M., . . . Groves, J. (2012). **Longitudinal effects of safetalk, a motivational interviewing-based program to improve safer sex practices among people living with HIV/AIDS.** *AIDS and Behavior*, 16(5), 1182-1191; Safren, S. A., O'Cleirigh, C., Skeer, M. R., Driskell, J., Goshe, B. M., Covahey, C., & Mayer, K. H. (2011). **Demonstration and evaluation of a peer-delivered, individually-tailored, HIV prevention intervention for HIV-infected MSM in their primary care setting.** *AIDS and Behavior*, 15(5), 949-958

### SCORING

**UAVI Index:** Create each person's UAVI index by:

- Adding up the number of times they had unprotected anal or vaginal intercourse with any type of partner. The lowest possible score is 0, and there is no highest limit. In the Golin (2012) study, average totals were about 3.5 times before the intervention, and 1.3 times after the intervention.

**TRB Index:** Create each person's TRB index by:

- Adding up the number of times they had unprotected anal or vaginal intercourse with at-risk partners: HIV-negative or unknown HIV status. The lowest possible score is 0, and there is no highest limit. In the Golin (2012) study, average totals were about 2.75 times before the intervention, and less than one time after the intervention.

Additional resources: These indicators are also compatible with those used in outcomes monitoring in the US National Strategy <http://www.cdc.gov/hiv/policies/progressreports/index.html> ([http://www.cdc.gov/hiv/pdf/policies\\_NationalProgressReport\\_TechnicalNotes.pdf](http://www.cdc.gov/hiv/pdf/policies_NationalProgressReport_TechnicalNotes.pdf) - provides details on how the indicators are measured;) and in the UK: <http://www.aidsmap.com/Changes-in-self-reported-behaviour-amongst-a-cohort-or-sample/page/1768181/>