Eurosupport 6

Developing an Intervention for Sexual Risk Reduction Guided by an Intervention Mapping Method (IMM) Framework

Overview

Version 1.6 (October 2010)

Introduction

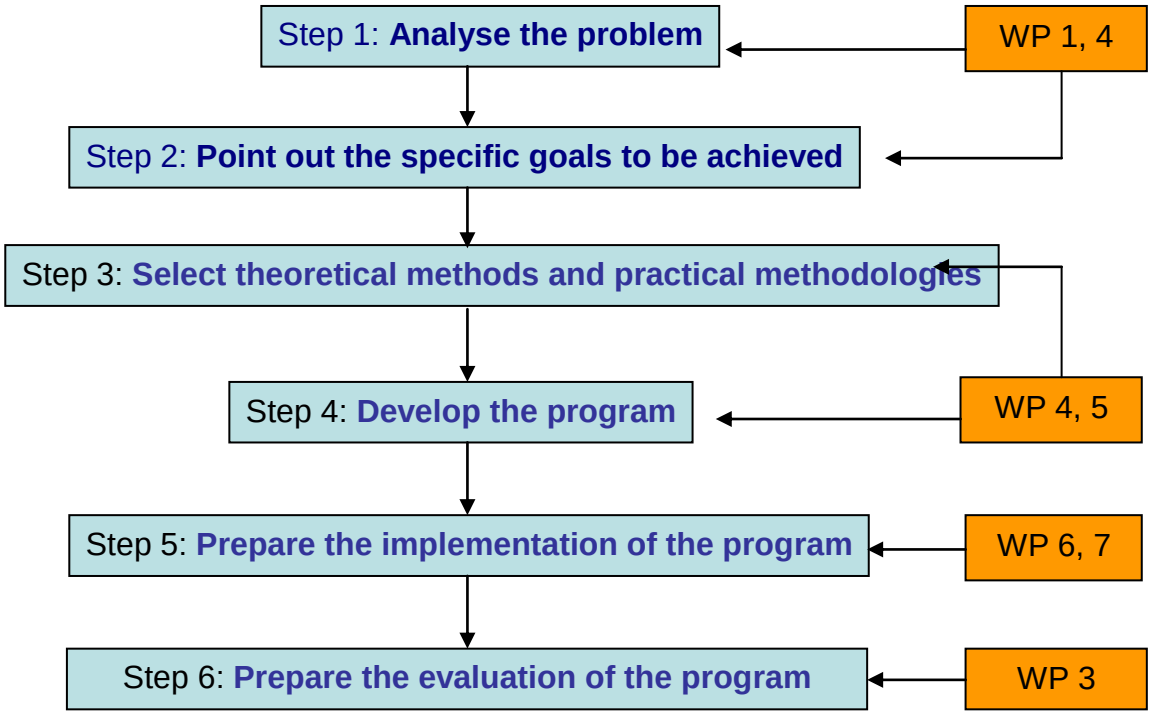
In this document we describe the development of a theoretical framework, i.e. Intervention Mapping Method (IMM; Bartholomew 2006; Kok 2006)[1] that guides the positive prevention interventions to be developed in the project Eurosupport 6. [1]

The projects' general objective is to prevent onwards HIV transmission and other sexually transmitted infections (STI) from people living with HIV/AIDS (PLHA) to their sexual partners by supporting service providers (SP) in HIV care settings to deliver positive prevention interventions, defined as adequate sexual and reproductive health (SRH)-related services (i.e. sexual risk reduction and fertility-related services). Service providers (SP) involved in HIV care and support are in a unique position to address sexual behaviour and support people living with HIV in the choices they have to make with respect to their sexuality, but they need to be adequately equipped to do so. Therefore, the main output of this project is a training and resource package (TRP) that enables service providers to deliver positive prevention interventions. The interventions are targeted towards two groups most affected by HIV in Europe due to their heightened yet different vulnerability, namely men having sex with men (MSM) and migrants (or members of target groups stemming from ethnic minorities).

IMM guides the TRP development as an iterative process, in which each step is based on the outcome of the previous step. Together, they contribute to the following envisaged outcomes:

- enabling service providers to deliver effective positive prevention interventions
- enable people living with HIV/AIDS (PLHA; two target groups as mentioned above) to make informed decision about sexual risk reduction and to adopt positive prevention principles;

Figure 1: Linkages between IMM steps and Eurosupport 6 work-packages (WP)



[1] For more information on the project, see annex 1 to the Grant Agreement Nr. 2008 1204 (European Commission/Public Health Programme 2008-2013).

In the context of a European public health project with 10 different countries participating, IMM as an overall methodological framework safeguards sufficient comparability of the interventions across the different settings as they will all adopt the same theoretical strategies and underlying principles. At the same time this allows for the needed flexibility to develop target group specific and local/regional adaptations.

It should be mentioned that this document is a work in progress. While at this moment, steps one and two of the IMM process can be defined, information on the next steps will be added gradually while the project is progressing.

Step 1: Needs assessment

The needs assessment focuses on assessing the main determinants influencing sexual risk behaviour and positive prevention needs. Data used for this needs assessment stem from the previous Eurosupport 5 (ES 5) project [2] and are supported by other evidence gathered in the current scientific literature.
The needs assessment undertaken in ES 5 was divided in two data collection phases (see also table 1 for an overview):

1) Elicitation research: Eurosupport 5

The first qualitative research phase of ES 5 was used to compile an in-depth assessment of prioritized positive prevention and sexual and reproductive health (SRH)-related needs of PLHA, and factors theorized to influence sexual risk reduction and fertility related decisions. We adopted the qualitative method of grounded theory and the data collection technique of focus group discussions (FGDs). An overall of 37 FGDs were carried out. In addition, 20 in-depth face-to-face interviews and one e-mail online discussion were done with PLHA. The specific methods applied and the detailed results have been published. [3]

According to the elicitation research the most salient issues relating to SRH-needs of PLHA can be summarized as follows:

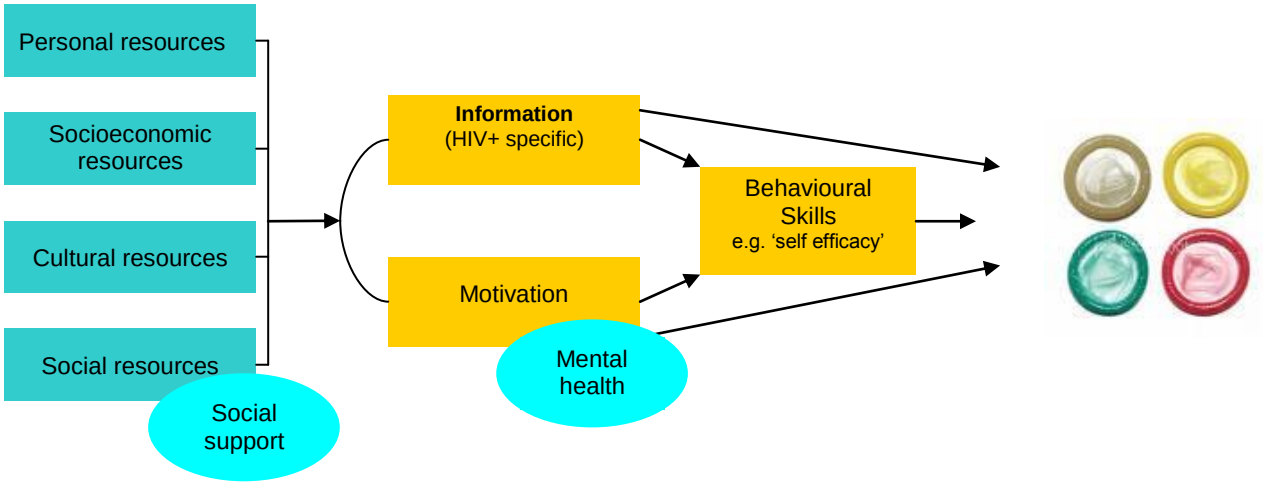
- SRH is a prioritized need of PLHA
- Two main areas emerged: Sexual risk reduction needs, fertility-related needs (child desire, contraceptive needs)
- Lifelong challenge to adhere to safer sex on a day-to-day basis
- Service providers perceive a lack of training to address SRH issues
- Service providers and PLHA have different perceptions about who should initiate addressing sexuality and positive prevention
- Service provision: little integration of HIV and SRH issues

2) Quantitative cross-sectional study

The aim of the second research phase in ES 5 was to assess determinants of sexual risk behaviour: on the basis of the elicitation research, a European multi-site survey was carried out. The

Information-motivation-behavioural skills model (IMB model) was used as a theoretical guidance to assess the different determinants of sexual risk behaviour.[4 5 6] The constructs of the IMB model were modified on the basis of the qualitative research to make it more specific for people living with HIV.

Figure 2: Modified IMB model (based on ES 5 research)



The modified IMB model was empirically tested in a sample of N= 1.549 PLHA (stemming from 14 EU/EFTA countries). The sample consisted of 20% heterosexual men, 24% women, 56% MSM; the results have been described in details elsewhere; [7] overall 68% of all study respondents reported consistent condom use, whereas among MSM 56% used a condom at all sexual encounters during the last 6 month (reporting period).
Condom use was increased by higher self efficacy, and by subjective norms conducive to condom use, and it was reduced by having sex with an HIV+ partner. A stratified analysis of the quantitative data showed the main differences between MSM, and heterosexual women and men respectively: depression among MSM reduced condom use with casual partners; women were more influenced in their decision-making and related outcomes by partner-related factors (HIV status, disclosure, partner support, and cultural factors) relating to condom use with steady partners; in turn, condom use with steady partners among heterosexual men was influenced by personal resources (HIV-specific information, use of antiretroviral treatment, mental health-related factors, and perceived quality of sex life).

3) Additional evidence for SRH- and positive prevention needs among PLHA

With respect to the target group of MSM and rates of sexual risk and protection behavior, our results are in line with previous European studies. For instance, Bouhnik et al. (2007)[8] reported that 46.7% of their French gay sample reported at least one unprotected episode of anal intercourse with HIV+ positive seroconcordant steady partners (in a period of the previous 12 months). Elford et al. (2001) [9] assessed internet use for sexual contacts among MSM and found that 34.4% had used the internet for seeking sex. This was associated with having a STD and with more sexual risk behaviour. In 2007, Elford et al. found that 37.8% of HIV-positive gay men seeking sex on the internet had unprotected insertive anal intercourse with HIV-positive partners.[10] In an earlier investigation De Wit et al. (2000) found lower rates of sexual risk

behaviour, i.e. 18% of seropositive gay men with casual partners, and 9.4% of those with steady partners of discordant or unknown serostatus had had unprotected anal sex. [11]

Compared to this, the empirical evidence for migrants is scare. However, the evidence available suggests that factors of vulnerability are different than compared to MSM, and that the level of sexual risk behaviour may be somewhat lower. African migrants in the London-based study by Elford and colleagues (2007) reported rates of sexual risk behaviour of 14% mainly with their main partners, whereas a French study reported levels of 33% for heterosexual HIV positive outpatients (of whom 25% of them men and 30% of the women were migrants). [12] Another French study reported risk behaviour of 26 % for men (13% migrants included) and 34% for women (39% migrants included): financial difficulties, history of drug use, and unknown HIV status of the partner were associated with sexual risk behaviour for women, whereas for men, risk factors were to longer duration of relationships, binge drinking, and also financial difficulties. [13]

In the absence of better empirical evidence relating to sexual risk behaviour of PLHA stemming from migrant communities, we may draw on data from migrants in general, not specifically HIV-infected. The Mayisha II study, assessing the feasibility of community-based prevalence surveys of HIV among black Africans in England (2004/2005) for instance, found that over half of the study population (N=1359 men and women) had used a condom at last intercourse, in most cases to protect against both, HIV/STIs and pregnancy. Substantially more men than women reported two or more new sexual partners in the past year (20.0% compared to 7.9%). Among married and cohabitating men and women, trust in the monogamous nature of their relationship and faithfulness to one partner were highlighted as key values, often underpinned by religious beliefs. However, both men and women's accounts included experiences of concurrent relationships, both their own and their partner(s)'.[14]

4) Conceptualization of risk: risk as feeling versus risk as analysis

Research has shown that people perceive risk and act upon in two fundamental ways. 'Risk as feeling' refers to individuals' fast, instinctive, and intuitive reactions to danger, whereas 'risk as analysis' brings logic, reason, and scientific deliberation to bear on risk management.[15] There is a body of research mainly from cognitive psychology and neuroscience that has examined how emotions and feelings may influence judgments relating to health risks. This leads back to theories come to known as the dual-process theories of information processing [16], which has stressed the direct and primary role of affect in motivating behaviour. It is then reasonable to assume that while analysis as a cognitive competence is important in some decision-making circumstances, reliance on affect and emotion may be a quicker, easier, and more efficient way to take decisions in highly complex, uncertain, and emotionally-laden situations. Support for this assumption comes from a diverse set of empirical studies which resulted in the overall evidence that people base their judgments of an activity or a technology not only on what they think but also on how they feel about it. [17] [18] [19] Finuncane et al. (2000) characterized this mechanism of decision-making a mental short-cut or affect heuristic. Other authors applied this in boths experimental and empirical research to the field of cancer, genetical testing or cigarette smoking. [20] [21] [22] In the field of human sexuality and decision making about sexual risk and protection behaviour such theories may be of utmost relevance when designing interventions. Sexual encounters per definition bear unconscious, ambivalent and emotionally and value laden

elements, which are difficult to target by prevention material that primarily addresses the rationale system (e.g. written information, risk probabilities relating to specific sexual activities, etc.). Most people lack experience of how their future elf will value the tradeoff between different risks from a given health behaviour and they give little conscious thought to the actual risk when immersed in an emotionally or sexually-laden situation. Such an analysis has profound implications for interventions, which then need to use positive imagery and should be designed with appreciation to the affect as described here.

The above mentioned evidence under points 1 to 4 as applicable to the needs assessment is summarized in table 1.

Table 1: An iterative approach to identifying determinants based on ES 5 results and other empirical evidence

Method		Results/Summary
Literature review	→	Initial idea about determinants of sexual risk reduction and positive prevention needs on the level of SP and PLHA
FGDs with both SP and PLHA; In-depth interviews with PLHA	↙ →	Grey areas and folk knowledge/misconceptions about some aspects of HIV transmission risks; Mental health factors relevant; Disclosure process is important; Social support and peer-related norms relevant for adoption of safer sex behaviour; condom use regarded as unpleasant (migrants).
Survey addressing sexual risk reduction and SRH service provision among MSM	↙ →	Results used to develop self-reported questionnaire (survey) development addressing determinants of sexual risk reduction based on the IMB model Self efficacy, subjective norms, mental health-related factors and HIV status of partners influence condom use; self-efficacy is strongest predictor and is influenced by attitudes to condoms, perceived vulnerability, and subjective norms.
Survey addressing sexual risk reduction and SRH service provision among heterosexual PLHA (incl. migrants)	→ ↘	Self-efficacy and subjective norms are strongest predictor for condom use with steady partners; HIV-specific factors (partner's HIV status and disclosure) are associated with less condom use. Gender differences: women are more influenced by partner support and cultural resources; men are more influenced by internal motivation and perceived sexual health. SRH issues in women: High rates of unplanned pregnancies; low contraceptive uptake; high rate of abortions.
Online survey (ES 5) assessing integrated SRH and HIV service provision (among SP)	→	Areas for improvement as perceived by SPs: HIV testing, addressing sexuality, general availability of SRH services, legal issues (e.g. termination of pregnancy). Lack of knowledge on delivering cultural sensitive messages. General counseling guidelines or standardized evidence-based approaches largely missing.
Additional empirical evidence relating to sexual (risk) behaviour of migrants	→	Socio-economically disadvantaged group; level of risk behaviour generally lower (14% in a UK study; 26% for women and 34% for men in a French study); Sexual risk behavior occurs rather with main partner; associated factors are alcohol abuse, mental health, and discrimination. Condom-use is a source of tension in the relationship due to lack of negotiation skills.
Evidence on decision research: not only cognition, but also affective and emotional factors play a role	→	Results of a different body of research implies that people base their judgments of an activity or risk assessment not only on what they think but also on how they feel about it. *Risk as feelings* refers to individuals' fast, instinctive, and intuitive reactions to a perceived risk or danger; it can be assumed that in the are of sexual risk taking such intuitive, quick 'system 1 decisions' are likely to occur.

Table 2: **General summary of determinants for MSM**
1. Overall knowledge level good; some difficulties to assess risk accurately, e.g. some confusion about sero-concordance and sero-sorting (re-infection or superinfection, additional role of STIs among MSM); 2. Motivation and attitudes contingent on peer norms (perceived vulnerability; responsibility for safer sex, being in favour of using condoms in different types of sexual relationships, e.g. steady and casual partners; sero-sorting; intention to use condoms and practice safer sex to protect one's own health and the partner's health); 3. Self-efficacy most important determinant of condom use and ability to negotiate safer sex (including feeling good about ones own sexual orientation and the preferred sexual practices; being able to put boundaries in terms of sexual behaviour); 4. Difficulties in dealing with peer and partner pressure to have unsafe sex (MSM), difficulties in dealing with perceived stigma relating to being gay. 5. Social (partner- and peer) norms influence attitudes/motivation and self efficacy, importance of dealing with social norms relating to safer sex and homosexuality (e.g. dealing with homophobia in society, stigma related to MSM.

Table 3**: General summary of determinants for migrants**
1. Some misconceptions relating to HIV transmission and SRH (pregnancy, contraceptive usage); some issues unclear relating to fertility and sero-oncordant/discordant couples. 2. Motivation and attitudes contingent on culturally grounded peer norms and power balance in a relationship (responsibility for safer sex; perceived vulnerability; general dislike of condoms among males; love and trustful relationships as a barrier to safer sex and condom use, condoms perceived as a means of protection for mainly casual partnerships; fertility-related motivation such as child desire increase sexual risk); 3. Self-efficacy important determinant of condom use and ability to negotiate safer sex; being able to put boundaries in terms of to sexual behaviour); 4. Difficulties in dealing with peer and partner pressure to have unsafe sex (for males: exerting pressure on female partners to have unsafe sex) 5. Social (partner- and peer) norms influence attitudes/motivation and self efficacy, importance of dealing with HIV-related stigma and social norms relating to safer sex.

Step 2: Developing the IMM matrices

1) Selection of the intervention population

Throughout Europe, two target groups are particularly affected by HIV infections: men having sex with men and heterosexuals, among which migrants stemming from high endemic regions (such as Sub-Saharan Africa) represent a particularly difficult to reach target group with specific needs. Therefore, the interventions to be developed in the framework of this project are tailored to the specific positive prevention needs of these two target group: MSM and migrants stemming from high endemic regions or sharing a particular vulnerability with respect to HIV.

Definition of the target groups "men having sex with men" and "migrants and ethnic minorities" within Eurosupport 6

The term 'MSM' pertains to men having sex with other men, independent of whether they self-identify as gay or bisexual.

The term 'migrants' refers to people with migrant background or belonging to ethnic minorities. A series of underlying issues, tied to socially and culturally grounded factors, makes people with a migrant background and ethnic minorities living in Europe particularly vulnerable with respect to HIV and sexual risk behaviour. This is independent of whether they acquired HIV in a high endemic region (e.g. Subsaharan Africa), or in the country they currently live in. However, there is epidemiological evidence that migrant stemming from high-endemic regions comprise a substantial part of people living with HIV in Europe. Therefore, the interventions to be developed within ES 6 will target the diverse group of migrants and ethnic minorities, next to MSM.
Within ES 6, people with a migrant background comprise the following sub-groups:

People, currently residing in a EU country but with a 'foreign' citizenship from birth, are considered as having a migrant background, whether they were born in the given EU country or abroad. This will include both people from first or second generation migrants and people, who may or may not possess the citizenship of the given EU country. The term 'ethnic minority' refers to a socially subordination ethnic group (understood in terms of language, nationality, religion and/or culture). [23] [24] HIV-positive people with a migrant background or belonging to ethnic minorities face different yet heightened barriers compared to the general population in accessing HIV services. They are confronted with the double stigma of being a migrant and being HIV positive. Due to a lack of cultural sensitivity within the services, communication problems (pertaining to both the language barrier but also different perceptions of the service provider-client/patient relationship), and the HIV-related stigma which is particularly pronounced in many migrant communities, HIV services often fail to provide adequate assistance that match the specific needs of these patients. Results from the previous ES 5 project have shown that in the countries investigated there was a lack on service provision towards the specific needs of migrant drug users (third ES 5 research phase on service provision) and service providers expressed the need for culturally sensitive training on sexual and reproductive health.
Therefore, within this project we deal with the respective MSM and migrant population within a given health care setting, i.e. at the participating HIV service or community-based service. It has to be recognized that these target groups may be quite heterogeneous in terms of their respective cultural background, however, the common underlying theoretical principles that guiding the intervention development will account for sufficient comparability across the different settings.

HIV-Transmission groups and trends in Europe

Currently, the predominant transmission group in Western Europe is heterosexual (54% equaling more than 10.000 cases, among which 35% were females; data referring to the end of 2006). A total of 19% all newly diagnosed HIV infections occurred in 2006 in the European Union among individuals originating from Sub-Saharan Africa, which makes them the largest groups among migrants. At the end of 2006, a further 37% of HIV infections were acquired through homosexual contacts in Europe. Central Europe reported a similar situation: 52% heterosexual and 27%

homosexual transmissions, but a relative higher percentage of infections due to intravenous drug use (16% compared to 8% in the West). However, more than 50% of the new infections in 2006 had occurred among MSM in that region.[25] In many European countries MSM are the group most at risk for acquiring HIV and other sexually transmitted infections (STIs), with HIV prevalence ranging between 5% and 15%, and HIV incidence of almost 3 % per year. These epidemiological trends provide the rationale for the selection of the two ultimate target groups of this project (subgroups of PLHA) who are the beneficiaries of the pilot interventions to be delivered.

2) Performance objectives, personal change objectives and learning objectives

The different sources used for the needs assessment clearly show that practicing safer sex (as operationalized by adopting condoms use) is the most realistic, yet not an easy, option for members of both target groups to prevent unwanted consequences of their sexual behaviour. In order to use condoms effectively, i.e. in a correct and consistent manner, PLHA should be able to perform a number of specific behaviours, which are summarized in table 4 below.

Table 4**: General summary of performance objectives for MSM**
1. To disclose HIV to different types of partners 2. To make an accurate risk assessment 3. To reduce number of sexual partners 4. To adopt sexual practices that are less risky (e.g. 'harm reduction' from anal to oral sex for MSM) 5. To plan ahead for the adoption of safer sex behaviour 6. To plan ahead for condom use 7. To negotiate safer sex with different types of sex partners 8. To negotiate condom use with different types of sex partners 9. To use condoms correctly with different types of partners 10. To maintain condom use over time (i.e. using condoms consistently) with different types of partners 11. To seek professional support relating to sexual health (if needed) 12. To seek STI testing if sexual risk behaviour has occurred
General summary of performance objectives for migrants/ethnic minorities
1. To disclose HIV to different types of partners 2. To make an accurate risk assessment 3. To reduce number of sexual partners 4. To plan ahead for the adoption of for safer sex behaviour 5. To plan ahead for condom use 6. To negotiate safer sex with different types of sex partners 7. To negotiate condom use with different types of sex partners 8. To use condoms correctly with different types of partners 9. To maintain condom use over time (i.e. using condoms consistently) with different types of partners 10. To seek professional support relating to SRH (if needed) 11. To seek STI testing if sexual risk behaviour has occurred 12. To make informed decision on contraceptives 13. To make informed decision on fertility-related issues (safe conception, PMTCT…)

In summary, the intervention to be developed is designed to address the underlying determinants as outlined in table 2 and 3 (above), and this is translated into the final change objectives. For a final determinant delineation, they are formulated per target group. Table 5 and 6 give an overview on the performance objectives and how they are translated into specific personal change objectives. They result into the most immediate focus for the envisaged impact of the intervention.

Table 5: Personal change objectives for MSM

Performance objectives (PO)	Knowledge	Motivation/attitudes	Self-efficacy	Behavioural skills	Social norms
PO 1. Disclose HIV to sexual partners	List advantages and disadvantages of disclosure in specific situations	Belief that advantage of disclosure outweighs the disadvantages Belief that HIV positive partner has responsibility to protect the sexual partner	Feel confident to be able to disclose	Demonstrate effective communication strategies to disclose	Deal with HIV-related stigma Deal with MSM-related stigma (e.g. in CCEE)
P0 2. Make accurate risk assessment	K 2.1. Know the HIV transmission risk of different sexual practices K 2.2. Know the differences in HIV transmission in seroconcordant/discordant relationships K 2.3. Know the basics about STI transmission K 2.4. Know about emergency measures (PEP)	Belief that it's worth to protect one's own health Feel responsible for protecting the sexual partner's health	Feel confident to make an accurate risk assessment		Deal with peer group norms that minimize transmission risk between positives
PO 3. Reduce number of partners	Know that reduced number of sexual partners reduces transmission/health risk	Belief that reducing number of sexual partners will reduce transmission/health risk	Feel confident to be able to reduce number of sexual partners	Decline explicit sexual offers if unwanted	Being able to resist implicit peer group pressure to have numerous sexual partners
PO 4. Adopt 'less risk' sexual practices	Know the relative risks of sexual practices (see K 2.1)	Belief that adopting 'less risky sexual practices' will have a health benefit	Feel confident to be able to adapt sexual patterns to 'less risky practices'	Negotiate using 'less risky practices'	Resist peer group sexual norms
PO 5. Plan to adopt safer sex behaviours	Explain difficulty to adopt safer sex if one is unprepared	Belief that planning ahead is a form of taking responsibility for safer sex	Feel confident in planning ahead for different circumstances in which adoption of safer sex is necessary		

PO 6. Plan to adopt condom use	Explain difficulty to adopt condom use if one is unprepared	Belief that planning ahead is a form of taking responsibility for condom use	Feel confident in planning ahead for different circumstances in which adoption of condom use is necessary		
PO 7. Negotiate safer sex with sexual partner	List steps to negotiate safer sex	View negotiating safer sex use as being responsible	Feel confident to be able to state intention to adopt safer sex	Discuss safer sex with the sexual partner	Resist social peer norms not to bring up safer sex before sex
PO 8. Negotiate condom use with sexual partner	List steps to negotiate condom use	View negotiating condom use as being responsible View condoms as positive means of protection (despite eventual disadvantages)	Feel confident to be able to state intention to adopt condom use	Discuss condom use with the sexual partner	Resist social peer norms not to bring up condom use before sex
PO 9. Use condoms correctly	K 9.1. Describe how to use condoms correctly K 9.2. Describe how to safely remove a condom K 9.3. Know how to integrate condom use in the sexual encounter	Be conscientious about using condoms correctly View sexual encounters as enjoyable in spite of using a condom	Feel confident in using condoms correctly	Demonstrate how to use condoms correctly	
PO 10. Maintain condom use over time	Explain why condom use is important over time (with both regular partners and casual partners)	Feel committed to use condoms at every sexual encounter	Feel confident to maintain condom use in difficult situations	Cope with eventual disadvantages of condom use	Cope with partner pressure to not use condoms consistently
PO 11. Seek professional support for sexual health if needed	Know where to find professional support and guidance	Belief that professional support can be an effective guidance in improving sexual health	Feel confident to be able to seek professional support if needed	Address sexual health issues in counseling and care	

PO 12. Seek STI testing if risk behaviour has occurred	Know where to go for an STI check	Belief that checking STI regularly can be effective in improving sexual health and can protect the sexual partner	Feel confident to be able to seek STI testing if needed	Address this issue in counseling and care	

Table 6: Personal change objectives for migrant women

Performance objectives (PO)	Knowledge	Motivation/attitudes	Self-efficacy	Behavioural skills	Social norms
PO 1. Disclose HIV to sexual partners	List advantages and disadvantages of disclosure in specific situations	Belief that advantage of disclosure outweighs the disadvantages Belief that HIV positive partner has responsibility to protect the sexual partner	Feel confident to be able to disclose	Demonstrate effective communication strategies to disclose	Deal with HIV-related stigma Deal with societal stigma related to being a migrant
P0 2. Make accurate risk assessment	K 2.1. Know the risk of HIV transmission within heterosexual relationships K 2.2 Know the differences in HIV transmission in seroconcordant/discordant relationships K 2.3. Know the basics about STI transmission K 2.4. Know about emergency measures (PEP)	Belief that it's worth to protect one's own health Feel responsible for protecting the sexual partner's health	Feel confident to make an accurate risk assessment		Deal with peer group and partner group norms that minimize transmission risk between positives
PO 3. Reduce number of partners	Know that reduced number of sexual partners reduces transmission/health risk	Belief that reducing number of sexual partners will reduce transmission/health risk	Feel confident to be able to reduce number of sexual partners	Decline explicit sexual offers (if unwanted)	Resist implicit peer group/economic pressure to have numerous sexual partners
PO 4. Plan to adopt safer sex behaviours	Explain difficulty to adopt safer sex if one is unprepared	Belief that planning ahead is a form of taking responsibility for safer sex	Feel confident in planning ahead for different circumstances in which adoption of safer sex is necessary		

PO 5. Plan to adopt condom use a	Explain difficulty to adopt condom use if one is unprepared	Belief that planning ahead is a form of taking responsibility for condom use	Feel confident in planning ahead for different circumstances in which condom use is necessary		
PO 6. Negotiate safer sex with sexual partner	List steps to negotiate safer sex	View negotiating safer sex use as being responsible	Feel confident in being able to state intention to adopt safer sex	Discuss safer sex with the sexual partner	Resist culturally grounded norms not to bring up safer sex before sex
PO 7. Negotiate condom use with sexual partner	List steps to negotiate condom use	View negotiating condom use as being responsible View condoms as positive means of protection (despite eventual disadvantages)	Feel confident in being able to state intention to adopt condom use	Being able to discuss condom use the sexual partner	Resist social peer norms not to bring up condom use before sex
PO 8. Use condoms correctly	K 8.1. Describe how to use condoms correctly K 8.2 Describe how to safely remove a condom K87.3 Know how to integrate condom use in the sexual encounter	Be conscientious about using condoms correctly View sexual encounters as enjoyable in spite of using a condom	Feel confident in using condoms correctly	Demonstrate how to use condoms correctly	
PO9. Maintain condom use over time	Explain why condom use is important over time (with both regular partners and casual partners)	Feel committed to use condoms at every sexual encounter	Feel confident to maintain condom use in difficult situations	Cope with eventual disadvantages of condom use	Resist partner pressure to not use condoms consistently
PO 10. Seek professional support relating to SRH if needed	Know where to find professional support and guidance	Belief that professional support can be an effective guidance in improving SRH	Feel confident to be able to seek professional support if needed	Address SRH related needs in counseling and care	

PO 11. Seek STI testing if risk behaviour has occurred	Know where to go for an STI check	Belief that checking STI regularly can be effective in improving sexual health and can protect the sexual partner	Feel confident to be able to seek STI testing if needed	Address this issue in counseling and care	
PO 12. Make informed decisions about contraception	K 12.1 Know about effective contraceptives for HIV positive women (incl. emergency contraception and dual contraception) K 12.2 List advantages and disadvantages of different contraceptives for HIV + women	Feel committed to use adequate contraceptives to avoid unintended pregnancies	Feel confident to use adequate contraceptives to avoid unintended pregnancies	Cope with eventual disadvantages of different contraceptives (or dual use)	Resist partner pressure to not use contraceptives
PO 13. Make informed decision on fertility-related issues	K 13.1. Know about the different components of prevention of mother to child transmission (PMTCT) K 13.2. Know about different ways of assisted reproduction for HIV+ couples (seroconcordant/serodiscordant) K 13.3. Know about specialized SRH services for PMTCT and safe methods of conception	Feel committed to adhere to PMTCT (incl. avoiding breast feeding) Feel committed to undergo specific procedures to reduce MTCT	Feel confident to being able to adhere to PMTCT		Resist culturally grounded pressure to not adhere to PMTCT standards (e.g. breast feeding)

Table 7: Personal change objectives for migrant men

Performance objectives (PO)	Knowledge	Motivation/attitudes	Self-efficacy	Behavioural skills	Social norms
PO 1. Disclose HIV to sexual partners	List advantages and disadvantages of disclosure in specific situations	Belief that advantage of disclosure outweighs the disadvantages Belief that HIV positive partner has responsibility to protect the sexual partner	Feel confident to be able to disclose	Demonstrate effective communication strategies to disclose	Deal with HIV-related stigma Deal with societal stigma related to being a migrant
P0 2. Make accurate risk assessment	K 2.1. Know the risk of HIV transmission within heterosexual relationships K 2.2 Know the differences in HIV transmission in seroconcordant/discordant relationships K 2.3. Know the basics about STI transmission K 2.4. Know about emergency measures (PEP)	Belief that it's worth to protect one's own health Feel responsible for protecting the sexual partner's health	Feel confident to make an accurate risk assessment		Deal with peer group norms that minimize transmission risk between positives
PO 3. Reduce number of partners	Know that reduced number of sexual partners reduces transmission/health risk	Belief that reducing number of sexual partners will reduce transmission/health risk	Feel confident to be able to reduce number of sexual partners	Decline explicit sexual offers (if unwanted)	Resist implicit peer group/economic pressure to have numerous sexual partners
PO 4. Plan to adopt safer sex behaviours	Explain difficulty to adopt safer sex if one is unprepared	Belief that planning ahead is a form of taking responsibility for safer sex	Feel confident in planning ahead for different circumstances in which adoption of safer sex is necessary		
P0 5. Plan to adopt condom use	Explain difficulty to adopt condom use if one is unprepared	Belief that planning ahead is a form of taking responsibility for condom use	Feel confident in planning ahead for different circumstances in which condom use is necessary		

PO 6. Negotiate safer sex with sexual partner	List steps to negotiate safer sex	View negotiating safer sex use as being responsible	Feel confident in being able to state intention to adopt safer sex	Being able to discuss safer sex with the sexual partner (being able to listen and talk)	Resist culturally grounded norms not to bring up safer sex before sex
PO 7. Negotiate condom use with sexual partner	List steps to negotiate condom use	View negotiating condom use as being responsible View condoms as positive means of protection (despite eventual disadvantages)	Feel confident in being able to state intention to condom use	Discuss condom use with the sexual partner (listen and talk)	Resist social peer norms not to bring up condom use before sex
PO 8. Use condoms correctly	K 8.1. Describe how to use condoms correctly K 8.2 Describe how to safely remove a condom K 8.3 Know how to integrate condom use in the sexual encounter	Be conscientious about using condoms correctly View sexual encounters as enjoyable in spite of using a condom	Feel confident in using condoms correctly	Demonstrate how to use condoms correctly	
PO 9. Maintain condom use over time	Explain why condom use is important over time (with regular partners and casual partners)	Feel committed to use condoms at every sexual encounter	Feel confident to maintain condom use in difficult situations	Cope with eventual disadvantages/dislike of condom use	Resist culturally grounded pressure to not use condoms consistently
PO 10. Seek professional support relating to SRH if needed	Know where to find professional support and guidance	Belief that professional support can be an effective guidance in improving SRH	Feel confident to be able to seek professional support if needed	Address SRH related needs in counseling and care	
PO 11. Seek STI testing if risk behaviour has occurred	Know where to go for an STI check	Belief that checking STI regularly can be effective in improving sexual health and can protect the sexual partner	Feel confident to be able to seek STI testing if needed	Address this issue in counseling and care	
PO 12. Make informed decisions about contraception	K 12.1 Know about effective contraceptives for HIV	Feel committed to use adequate contraceptives (incl. male condoms) to avoid	Feel confident to use adequate contraceptives (incl. male condoms) to	Cope with eventual disadvantages/dislike of different contraceptives	Resist peer group/partner pressure to not use contraceptives

	positive women (incl. emergency contraception and dual contraception) K 12.2 List advantages and disadvantages of different contraceptives for HIV + women	unintended pregnancies	avoid unintended pregnancies		
PO 13. Make informed decision on fertility-related issues	K 13.1. Know about the different components of prevention of mother to child transmission (PMTCT) K 13.2. Know about different ways of assisted reproduction for HIV+ couples (seroconcordant/ serodiscordant) K 13.3. Know about specialized SRH services for PMTCT and safe methods of conception	Feel committed to adhere to PMTCT (incl. supporting the female partner in avoiding breast feeding) Feel committed to undergo specific procedures to reduce MTCT (e;.g. sperm washing)	Feel confident to being able to support the female partner in adhering to PMTCT		Resist culturally grounded pressure to not adhere to PMTCT standards (e.g. breast feeding)

Step 3: Linking the change objectives to theoretical methods used in the intervention

Computerized Intervention for Safer Sex (CISS) amalgamates empirically derived theories of safer and risky sexual behaviour with advances in therapeutic techniques for behaviour change. Increased understanding of decision-making and risk evaluation has followed on the one hand from experimental cognitive work on motivational states and risk related behaviour [20, 26-28] and on the other from qualitative research on the narrative complexity of how people assimilate HIV prevention messages and negotiate sex [29]. One common finding to both cognitive and qualitative studies [30, 31] is, that real life risk-taking and risk-reduction strategies are not well described by rational health models. When not in a state of craving, people often form intentions to behave rationally (e.g. in their long-term best interest, according to societal values), however their experience in motivationally 'hot' situations (e.g. sexual arousal, fear of rejection, need for intimacy [32] is that attention shifts to immediate goals related to motivational state rather than distal general goals. So they find themselves behaving in ways discordant with their previous intentions.

Thus just as qualitative researchers have concluded that "accumulation of HIV narrative…shows that a nuanced understanding of meanings, emotions, sexual dynamics and circumstance is essential for understanding HIV risk and prevention [33], cognitive researchers have been able to show the importance of brain processes, motivational states and evaluation of contingencies for the realities of predicting behaviour. These strands of enquiry have allowed us to transcend static teleological models which see decision-making in relatively mechanistic terms (e.g. decisional balance).

Considering intervention strategies, two therapeutic models relevant to the above framework, have shown particular effectiveness for behaviour change. Cognitive Behaviour therapy (CBT), which is derived from experimental work on learning and reinforcement, emphasizes the tight relationship between perception of a situation, emotions and behaviour. Thus the 'meanings' an individual gives to people and situations are associated with emotions that in turn drive (and are driven by) the individual's own behaviour. The role of the therapist in CBT is to share understanding of this dynamic framework, then to help the client analyse the links in order to shift old meanings and construct new ones (and therefore behaviours) which are more in line with the client's values. A useful adjunct of CBT, and one that requires less therapeutic training, is Motivational Interviewing. This is a set of techniques intended to elicit detailed cognitions, emotions and descriptions of behaviour from a client, in such a way as to help her strengthen those which are most representative of her own core values – so shifting towards a higher probability of desired behaviour.

The CISS has been designed to harness these different elements described above to guide the therapeutic process, moving in stages from the elicitation of 'hot' emotions and cognitions towards 'rational' plans for action which are in line with the client's core values. It is by using the relatively 'hot' states as starting points, that the plans for action can be made more realistic than plans made from a purely logical frame of reference.

To this end, CISS has 3 'chapters', mapping onto the 3 counselling sessions offered in the intervention: the first (called *'Who am I'*) is intended to engage the client at the emotional 'hot' level, by showing video material – talking heads, counselling scenarios and short 'dramas' – all of which are nevertheless 'solution focused'. That is, the video clips are not mere descriptions of problems encountered in relation to safer sex, but also present a (non-simplistic) 'solution' to be considered by the client. The second session and stage of the CISS (called *'Working through'*) focuses on shifting from the emotional to the rational self by identifying best-fit solutions linked to

personal goals. The third stage and session ('*Planning for Today and Tomorrow'*) together pinpoint the implementation of specific actions which have been identified as leading to the desired change(s) in behaviour.

Table 8: Methods and strategies

Determinant	Method Theory/Construct	Strategies/tools
Knowledge	- Consciousness raising (in counseling context)	Information Questionnaires Video material
Self-efficacy	- Beliefs in own self-efficacy - Dealing with partner/peer pressure - Goal setting - Guided practice (SCT)	Modeling (through videos) Socratic dialogue, open questions Counter arguments Feeling well-informed Setting up a behavioural change plan Step by step development of behavioural plan
Emotions	- System 1 / System 2 decision making process - Dramatic relief (TTM) - Decisional balance (TTM)	Getting to underlying decision making process through CISS Using the specific materials, also negative emotions can, be experienced, and subsequently relieved Interpretation and self-evaluation of given behaviour
Motivation/attitudes	- Consciousness raising (TTM) - Personal norms - Modelling (SCT) - Anticipated regret (regret theory)	Questionnaire Open questions Reinforcing personal change (emotive and cognitive) Role models in the movies demonstrate behavioral solutions Working through solutions and stimulating imagination about undesired outcomes
Social support	- Mobilising social networks	Making individual risk reduction plan Modeling (through videos)

Step 4: Creating a coherent program for the intervention

The CISS is to be provided as a CD-rom to all Eurosupport6 participating centres. It will provide the guided focus of the counselling intervention. The role of the counsellor will be to support the client in his or her use of the CISS with the objective to make informed decision on safer sex behaviour and achieve a reduction in HIV transmission risk reduction behaviour.
The CISS has different parts or modules which we will call 'kisses' for now. The CISS has certain underlying assumptions:

- It is important for clients to direct the way in which they choose which 'kisses' they access as this provides an individually targeted approach.
- There is no need for the client to access all 'kisses'.
- The CISS presents materials in a way which is informal, emotive and which reminds clients of sexual situations

- CISS presents materials in a culturally appropriate way. We recognize that 'migrants' are a heterogeneous group, therefore CISS targets rather the specific vulnerabilities that migrants share with respect to HIV and SRH rather than representing a specific migrant culture.
- CISS presents materials for heterosexual migrants in a gender-sensitive way, i.e. materials contain specific issues adapted to the diverse needs of women and men living with HIV
- The role of the counsellor is to be accepting of the client's difficulties with safer sex and to work in a collaborative way with the client on the CISS materials.

Different visual materials – pictures, audio transcripts, video suggestions - will be included to support the non-directive, and client-centred counselling process that uses elements of motivational interviewing in terms of the counselling technique. The basic skills will be trained in the workshops and will also be integrated in the online training tool to be developed. Training intercultural competencies also forms an important part of the skills training for service providers in the ES 6 training workshop and training materials.

ELEMENTS OF CISS

The CISS contains a limited number of overall sections and within these there are a number of 'kisses' (modules) for both target groups. The overall sections are as follows:

CISS for MSM living with HIV

1. WHAT SORT OF PERSON AM I

This provides the front page of the CISS and is combined with an intake interview that draws on the personal history of the client, his/her way of dealing with HIV and safer sex and his/her individual risk perception. Background issues to be explored must also relate to social stress and personal vulnerability, if indicated: e.g. coming out, self-identity as being gay or bisexual, experiences of (traumatic) life events (e.g. double stigma relating to living with HIV and being gay…etc.)

Here, there will be short video descriptions by individuals of how they have managed different problems to do with safer sex. The client will be asked to choose at least one example to compare his or her own experience. This will provide a starting point for discussion with the counsellor. The video will be in English with sub-titles or they will be dubbed into the different languages.

The aim of this section is to help the client and the counsellor focus on specific possible solutions to the client's difficulties with the implementation of safer sex.

The following sections and their 'kisses' will be accessed by the counsellor and the client together according to client need. The counsellor will give the client 'homework' between sessions, which will discussed together in the following 2 sessions. These home-works should be independent of using the CISS at home, since participants will not have equal access to a PC at home.

2. TRAINING THE BRAIN

This section represents the framework of the CISS and the way in which it is somewhat different from other types of education for safer sex. It is a section providing examples of how sexual decisions are being taken, but the theory also supports the other sections. It has to be decided if

this will be a module on its own of material presented here is rather cross-cutting to provide insight into how sexual decisions are being taken.

- Understanding the chemical changes in the brain which drive different behaviours when there is sexual desire and no desire (hot and cold thinking)
- How the brain carries out assessment of risk and optimism versus pessimism
- How the brain makes decisions
- How feelings of motivation change quickly according to mood and context
- Learning to link between the rational and feeling brain.

3. LOVE, PASSION, INTIMACY AND GETTING CLOSE

Within this section, 'kisses' will cover for example:

- How the wish for love and a long term relationship affects a client's willingness to insist on condom use
- How in an intimate relationship the idea of sex 'naked', without a condom, can 'mean' greater intimacy than sex with a condom
- How very strong emotions change feelings about the importance of condom use
- How fast, casual unprotected sex can be a way of feeling 'alive' and close to the sexual partner
- Acknowledgement of dealing with feelings of wanting love and acceptance
- Managing painful feelings of emptiness of loneliness
- How 'disclosure' and other sorts of honesty can be a way of building a relationship

4. FEELING BAD, MAD, SAD, BEING HIGH

This section is to address the following topics:

- How mood affects behaviour, in this case: how anxiety and /or depression are likely to make the use of condoms less likely.
- How alcohol and drugs get involved with certain patterns of sexual functioning and how clients, who change their drug and alcohol habits, feel better.
- How mood is affected by the stigma of HIV and/or of homosexuality

5. RUBBER LOVE

- Condom attitudes , condom skills , condom preferences, condom planning, communication about sexuality and condom use
- Negotiation and assertiveness about condom use

6. SEX POSITIONING

- Libido, active passive preferences , specific practices
- Meeting for sex on the internet
- The personal meaning of sex

7. WORKING BODY - HIV AND ALL THAT

- Effects of HIV on sexual functioning
- Effects of HAART on sexual functioning
- Psychological aspects of HIV identity and sexual functioning

- Age and sex

8. HOW TO DO IT ALL - HERE COMES THE FUTURE

Where the counsellor and the client make a plan, using the tools of the CISS, including:

- How to use existing social resources (community resources, peer, friends, …)
- This includes also a visualizing tool ('goal enforcer') to make a personal plan, setting behavioural targets and priorities and developing the step that leads to achieving this behavioural goal.

CISS for migrants living with HIV (female version, male version)

1. WHAT SORT OF PERSON AM I

This provides the front page of the CISS. Here, there will be short video descriptions by individuals of how they have managed different problems to do with safer sex. The client will be asked to choose at least one example to compare his or her own experience including perceived vulnerability and individual risk assessment. This will provide a starting point for discussion with the counsellor. The video will probably be in English with sub-titles or they will be dubbed into your own language (if you offer to do this!)
Background issues to be explored may include: experiences of traumatic life events (e.g. being a refugee or having gone through the process of asylum seeking, undocumented status, rape, political persecution…); having experienced AIDS-related deaths in their home country; often as cumulative events leading to increased (social) stress and vulnerability!
For the risk assessment, the focus will be on perceptions on unsafe identities/persons than on unsafe sexual acts, individually often represented as ideas about a person looking healthy, a husband being faithful, somebody being a good person, etc. It is important to consider these myths to support clients in making realistic risk assessments.
The aim of this section is to help the client and the counsellor focus on specific possible solutions to the client's difficulties with the implementation of safer sex and SRH.
The following sections and their 'kisses' will be accessed by the counsellor and the client together according to client need. The counsellor will give the client 'homework' between sessions, to look at 'kisses' which they can then discuss together in the following 2 sessions.

2. TRAINING THE BRAIN

This section represents the framework of the CISS and the way in which it is somewhat different from other types of education for safer sex. It is a section providing examples of how sexual decisions are being taken, but the theory also supports the other sections. It has to be decided if this will be a module on its own of material presented here is rather cross-cutting to provide insight into how sexual decisions are being taken.
The counsellor will work with the client to ensure that he or she understands these aspects of brain functioning in sexual situations and how to make things better!

- Understanding the chemical changes in the brain which drive different behaviours when there is sexual desire and no desire (Hot and cold

- thinking)
- How the brain carries out assessment of risk and optimism versus pessimism
- How the brain makes decisions
- How feelings of motivation change quickly according to mood and context
- Learning to link between the rational and feeling brain.

3. LOVE, PASSION, INTIMACY AND GETTING CLOSE

Within this section, 'kisses' will cover for example:

- How the wish for love and a long term relationship affects a client's willingness to insist on condom use
- How in an intimate relationship the idea of sex 'naked', without a condom, can 'mean' greater intimacy than sex with a condom
- How partners' wish/pressure may influence the decision NOT to use condom
- How very strong emotions change feelings about the importance of condom use
- Acknowledgement of dealing with feelings of wanting love and acceptance
- Being away from the partner (in the home country) yet having sexual needs
- Managing painful feelings of emptiness of loneliness

4. LET'S TALK ABOUT HIV AND SEX

Being able to talk about sexuality, which represents a taboo in many migrant cultures, provides a basic prerequisite for HIV-specific communication skills, such as HIV disclosure, condom negotiation and assertiveness. How to communicate about sex in general, as well as specifically when it comes to disclosure and safer sex will be addressed in this module.

- Dynamics of disclosure: how to be in control of HIV disclosure ('gossips may turn against you', perceived promiscuity, the threat to infect others...) → anticipated fear to loose sexual partners and to risk social exclusion from the own community
- how HIV-related stigma may affect disclosure (with the sexual partner, with the family, within the community): this should clearly go beyond disclosure to sexual partners, but needs to address culturally grounded norms and shared beliefs relating to sexuality and HIV (e.g. promiscuity…); costs of disclosure perceived as large because of potential loss of inclusion from small ethnic communities;

5. FEELING BAD, MAD, SAD, BEING HIGH

This section is to address:

- how mood affects behaviour, in this case how anxiety and /or depression are likely to make the use of condoms less likely (spoilt identity, damaged self in connection to HIV related stigma)
- How alcohol and drugs get involved with certain patterns of sexual functioning and how clients, who change their drug and alcohol habits, feel better.
- How mood is affected by the double stigma of HIV and/or of being a migrant
- The role of spiritual relief

6. RUBBER LOVE

- Condom attitudes , Condom skills , Condom preferences, Condom planning, Communication about condom use, Negotiation about condom use
- Accessibility and availability of condoms
- Feeling responsible for protection behaviour (for men) → redefining masculinities
- How to be assertive about sexual decisions/negotiations (women!)

7. SEX POSITIONING

- Libido, sexual preferences
- The meaning of sex
- Culturally grounded sexual practices, e.g. 'dry sex'; penetrative sex involving friction not lubrication, BUT how big is that a factor in transmission? And how prevalent is this really?
- Concurrent partnerships and sexual networks

8. WORKING BODY - HIV AND ALL THAT

- Fertility and identity: having children, desiring (more) children
- Reproductivity and HIV: how to conceive safely (incl. PMTCT issues, breastfeeding)
- Family planning and HIV: contraceptive issues
- Effects of HIV and treatment on sexual functioning
- Psychological aspects of HIV identity and sexual functioning
- Age and sex
- STis other than HIV: recognizing symptoms /seeking testing if needed

9. OK BUT HOW TO DO IT ALL- HERE COMES THE FUTURE

Where the counsellor and the client make a plan, using the tools of the CISS, including:

- How to use existing social resources (community resources, peer, friends, …)
- How to use professional resources: where to find additional professional support for SRH-related issues (contraceptives, family planning, child desire…) and HIV
- This includes also a visualizing tool ('goal enforcer') to make a personal plan, setting behavioural targets and priorities and developing the step that lead to achieving this behavioural goal.

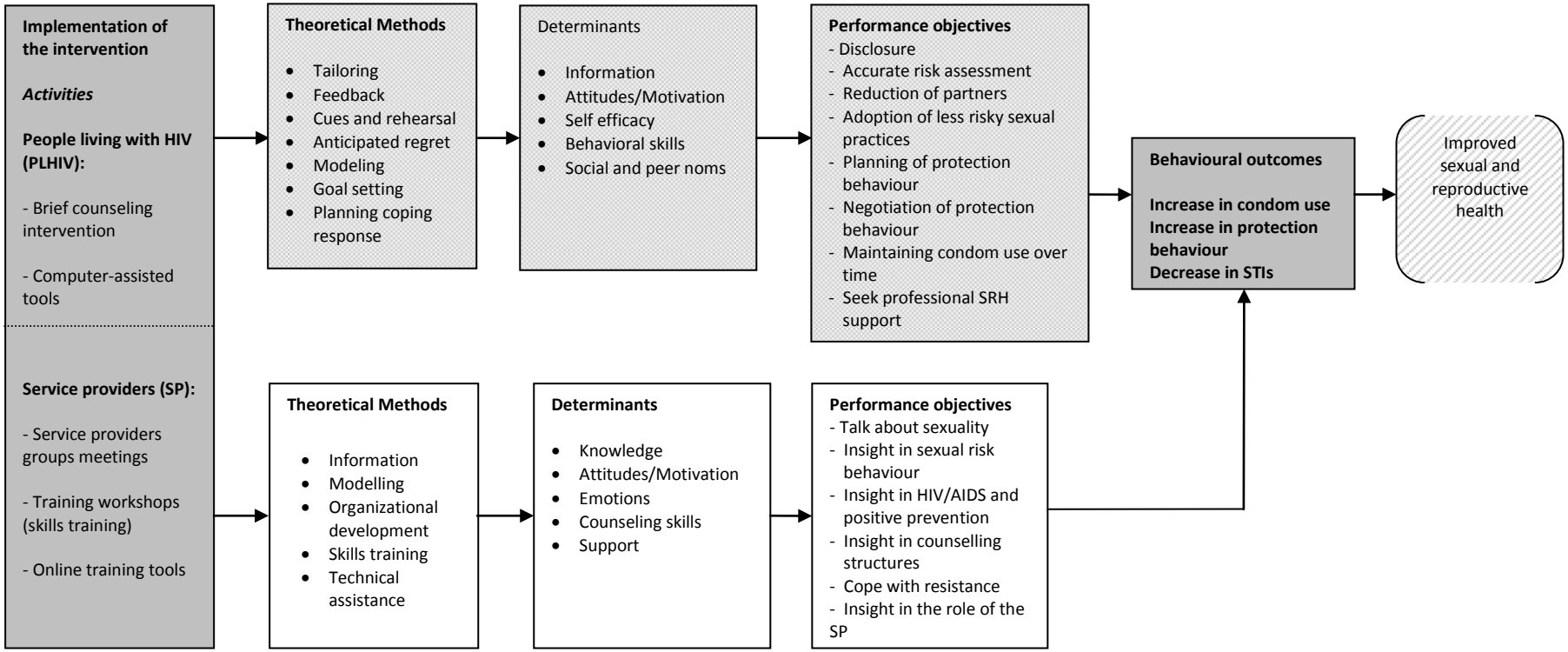
Step 5: Specifying the adoption and implementation plan

The CISS delivered by service providers in clinical care or community-based settings is the core piece of these culturally sensitive counseling interventions. The intervention is delivered to at least 220 men having sex with men and 220 migrants and comprizes at least 3 sessions, incl. screening, problem definition, developing behavioural solutions, feedback and follow-up focusing on SRH needs of migrants (e.g. disclosure, sexual negotiation skills, fertility-related issues, desire to have children and family planning needs; as described above). The professional background of the service providers (i.e. counselors), selected to deliver the CISS intervention, and the specific training provided within the framework of this project (training workshop for associated partners), ensures that service providers will have sufficient empathy and skills to take differences within this target group appropriately into consideration (such as for instance age, education, gender, origin, and occupation).
The partners set up local service providers' groups (SPGs) as linkage between program planners and field work. The groups exert an advisory role for culturally sensitive adaptation to target group specific needs, while safeguarding the use of theory-based methods and tools. SPGs contribute to issuing improved organizational policies for the integration of prevention work in HIV care settings. The intervention is delivered by HIV counsellors, sexual heath advisor, physicians, etc. who receive training in culturally sensitive intervention delivery (2 per partner). The period of data collection will take 15 months. During the first 7 months, PLHIV will be enrolled in the study. A pre-test screening will be performed at the start of the intervention. After completing the intervention (which takes approximately 4 to 6 weeks), a post-test assessment will be made. Three and six months later, a follow-up assessment is foreseen. One month is added to the data collection period for contacting and assessing people, who missed their follow-up assessment.

Step 6: Generating an evaluation plan

This evaluation design combines process indicators and outcome indicators (see below).
The CISS will be evaluated using a randomized controlled design, which compares a face-to-face counselling intervention of 3 individually tailored sessions, delivered by trained service providers to the condition of standard care. The intervention is developed for use in a variety of clinical and community-based care settings and is therefore evaluated in these settings for feasibility and effectiveness. The computer-assisted tools delivered by the CISS are expected to enhance the client-counsellor communication and to enable the counsellor to tailor the intervention to the clients' individual needs and priorities. These tools also facilitate the client's ability to sense an emotional (sexual) state, rather than a cognitive, rational one. The effects of the intervention on sexual protection behaviour and on psychosocial mediators of sexual protection behaviour are compared to the standard care control condition (i.e. treatment as usual) three and six months after completion of the intervention. Treatment as usual is reported by the participating centres (by means of a checklist to be filled in by themselves about their current services relating to positive prevention, see study protocol) and is also assessed as perceived by the clients. Quality process indicators and providers' fidelity to the intervention will be collected after the completion of the intervention.

Figure 3: ES 6 – Intervention logic model for the evaluation



IMM provides the overall guidance tool for internal quality control of the project. The IMM evaluation plan fine-tunes the evaluation: we adopt a combination of formative and outcome evaluation to assess both the feasibility and the efficacy of the intervention, focusing on the theoretical underpinnings combining different data assessment techniques from both service providers and PLHIV.

Outcome evaluation

The intervention's effectiveness is assessed using a prospective experimental design with randomized assignment of PLHIV to either intervention- or control group condition. Participants have to undergo screening for sexual risk behaviour during the last 3 months and on their perceived willingness to change behaviour.
The experimental pre- and post-test design compares 2 conditions (intervention condition: computer-assisted intervention, that combines face-to-face counselling with computer-assisted tools, i.e. computerized intervention for safer sex or CISS with the control condition: treatment as usual). These two groups will be compared with regards to behavioural indicators relating to sexual risk behaviour and other relevant variables (e.g. disclosure, attitudes and motivation to sexual risk reduction, perceived self efficacy in adoption sexual risk reduction, personalized prevention goals). These variables are measured by validated comparable tools, which allows for pooling the data (pre-test at baseline, 3 months and 6 months post-test after completion of the intervention). The study protocol describes the evaluation in more detail.

For evaluating the CISS, self-reported outcome measures are incorporated using on-line questionnaires to measure frequency of condom use, perception and choice of partners, as well as meta-cognitions referring to sexual risk and sexual decision-making.

Process evaluation

In addition, data are collected on the level of the service provider (post-test only) about feasibility, fidelity to the intervention, and perceived impact in order to control for the comparability of the intervention across sites.

The trainings workshops are evaluated by the participants in terms of their relevance and usefulness for adoption of the intervention using evaluation surveys, where the transferability to the settings will also be included.

Finally, evaluation reports will be issued: a brief interim evaluation report at mid-term and a final evaluation report will summarise the evaluation findings.

The evaluation reports will contain indicators, as presented in section 2.3, for assessing the project's effectiveness, both in relation to the overall project results as well as relating to some of its specific outputs (i.e. long-term follow up of the intervention, indicators relating to the training modules and the TRP).

References

[1] Bartholomew LK, Parcel GS, Kok G, Gottlieb NH (2006). Planning Health Promotion Programs. An Intervention Mapping Approach. Second Edition. Jon Wiley & Sons, San Francisco.

[2] Eurosupport 5 Study Group (2008). Improving the sexual and reproductive health of people living with HIv in Europe. Final Implemetation report (2005-2008). Project financed by the European Commission, grant agreement 2004314. Institute of Tropical Medicine, Antwerp. Available at: http://www.sensoa.be/eurosupport

[3] Nöstlinger C, Gordillo V, Borms R, Murphy C, Bogner JR, Csépe P, Colebunders R & the EUROSUPPORT Study Group (2008). Differences in Perceptions on Sexual and Reproductive Health between Health Care Providers and People Living with HIV: A Qualitative Elicitation Study. Psychology, Health & Medicine, 13 (5), 516–528.

[4] Fisher, J.D. & Fisher, W.A. (1992). Changing AIDS-risk behavior. *Psychological Bulletin,* 111, 455-474

[5] Fisher, W. A., & Fisher, J. D. (1993). A General Social Psychological Model for Changing AIDS Risk Behavior. In J. Pryor & G. Reeder (Eds.), *The social psychology of HIV infection* (pp. 127-154). Hillsdale: Erlbaum.

[6] Fisher, J.D., Fisher, W.A., Cornman, D.H., Amico, R.K., Bryan, A., & Friedland, G.H. (2006). Clinician intervention during routine clinical care reduces unprotected sexual behavior among HIV-infected patients. *Journal of Acquired Immune Deficiency Syndromes*, 41, 44–52.

[7] Nöstlinger C. et al. and the Eurosupport Study Group (2008): Understanding Sexual Risk Behavior Among People Living with HIV. Abstract nr. MOAC0306. Oral presentation at the XVII. International AIDS Conference (IAS), Mexico City, August 3-8, 2008.

[8] Bouhnik, A.D., Préau, M., Schiltz, M.A., Lert, F., Obadia, Y., Spire, B. et al. (2007). Unprotected sex in regular partnerships among homosexual men living with HIV: a comparison between sero-nonconcordant and seroconcordant couples (ANRS-EN12-VESPaStudy). *AIDS,* 2007, 21 (suppl), S43-248.

[9] Elford J., Bolding, G. & Sherr, L. (2001). Seeking sex on the internet and sexual risk behavior among gay men using London gyms. *AIDS,* 15, 1409-1415.

[10] Elford J, Fowzia I, Bukutu C, Anderson J (2007). Sexual behaviour of people living with HIV in London: implications for Hiv transmission. AIDS, 21 (suppl.1): S63-S70

[11] De Wit, J.B.F., Strobe, W., De Vroome, E.M.M., Sandfort, T.G.M.& van Griensven, G.J.P. (2000). Understanding AIDS preventive behavior with casual and primary partners in homosexual men: the theory of planned behavior and the information-motivation-behavioral skills model. *Psychology and Health,* 15, 325-340.

[12] Peretti-Watel P, Spire B, Schiltz MA, Bouhnik AD, Heard I, Lert F, Obadia Y & the VESPA group (2006). Vulnerability, unsafe sex and adherence to HAART: Evidence from a large sample of French HIV/AIDS outpatients. Social Science and Medicine 62: 2420-2433.

[13] Bouhnik AD, Préau M, Lert F, Peretti-Wattel P, Schilt MA, Obadia Y, Spire B & the VESAP study group (2007). Unsafe sex in regular partnerships among heterosexual persons living with HIV: evidence from a large representative sample of individuals attending outpatient services in France (ANRS-EN12-VESPA-Study). AIDS, 21 (suppl.1): S57-S62

[14] Health Protection Agency (2005). Mayisha II main study report. Available at: http://www.ahpn.org/downloads/publications/Mayisha_II.pdf

[15] Slovic P, Peters E, Finucane ML, MacGregor DG (2005). Affect, Risk and decision making. Health Psychology, 24 supplement (4): S3-S40

[16] Epstein S (1994). Integration of the cognitive and the psychodynamic unconscious. American Psychologist, 49, 709-724

[17] Alhakami, A. S., & Slovic, P. (1994). A psychological study of the inverse relationship between perceived risk and perceived benefit. *Risk Analysis*, *14*, 1085–1096.

[18] Finucane, M. L., Alhakami, A., Slovic, P., & Johnson, S. M. (2000). The affect heuristic in judgments of risks and benefits. *Journal of Behavioral Decision Making*, *13*, 1–17.

[19] Finucane, M. L., Peters, E., & Slovic, P. (2003). Judgment and decision making: The dance of affect and reason. In S. L. Schneider & J. Shanteau (Eds.), *Emerging perspectives on judgment and decision research* (pp. 327–364). Cambridge, England: Cambridge University Press.

[20] Reyna, V. F., Lloyd, F. J., & Whalen, P. (2001). Genetic testing and medical decision making. *Archives of Internal Medicine*, *161*, 2406–2408.

[21] Schwartz, M. D., Peshkin, B. N., Tercyak, K. P., Taylor, K. L., & Valdimarsdottir, H. (2005). Decision making and decision support for hereditary breast-ovarian cancer susceptibility. *Health Psychology*, *24*(Suppl. 4), S78–S84.

[22] Slovic, P. (2001). Cigarette smokers: Rational actors or rational fools? In P. Slovic (Ed.), *Smoking: Risk, perception, and policy* (pp. 97–124). Thousand Oaks, CA: Sage.

[23] MIGHEALTHNET - Information network on good practice in health care for migrants and minorities in Europe; available *at: http://www.mighealth.net*

[24] Correlation: European Social Inclusion and Health. Available at: http://correlation-net.org

[25] EuroHIV. HIV/AIDS Surveillance in Europe. End-Year Report 2006. Saint-Maurice : Institut de veille sanitaire, European Centre for the Epidemiological Monitoring of HIV/AIDS, Nr. 75.

[26] Kavanagh, D.Andrade, J; May, (2005) Imaginary Relish and Exquisite Torture: The Elaborated Intrusion Theory of Desire *Psychological Review* 112(2), April 2005, p 446–467

[27] Campbell, R. G. & Babrow, A. S. (2004). The Role of Empathy in Responses to Persuasive Risk Communication: Overcoming Resistance to HIV Prevention Messages. *Health Communication*, *16*(2), 159-182. doi:10.1207/S15327027HC1602_2

[28] Tversky, A, Kahneman, D (1992). "Advances in prospect theory: Cumulative representation of uncertainty". *Journal of Risk and Uncertainty* 5: 297–323

[29] Power R (1998). The role of qualitative research in HIV/AIDS, *AIDS* **12** (1998), pp. 687–695.

[30] Martin J (2006). Transcendence among gay men: Implications for HIV prevention, *Sexualities* **9** (2) (2006), pp. 214–235.

[31] Rhodes T & Cusick L (2002) Accounting for unprotected sex: stories of agency and acceptability, *Social Science & Medicine* **55** (2) (2002), pp. 211–226.

[32] Slavin, Richters, & Kippax (2004) Slavin, S., Richters, J., & Kippax, S. (2004). Understandings of risk among HIV seroconverters in Sydney. *Health, Risk & Society*, *6*(1).

[33] Davis M, Hart G, Bolding G, Sherr L, & Elford J (2006). E-dating, identity and HIV prevention: Theorising sexualities, risk and network society, *Sociology of Health & Illness* **28** (4) (2006), pp. 457–478