2008 BIOLOGICAL AND BEHAVIORAL SURVEY (BBS)

ON

HIV AND AIDS

UNDP Maldives

The Global Fund Supported Programme in the Maldives - November, 2008

Biological and Behavioural Survey on HIV/AIDS - 2008

Republic of Maldives

The Global Fund Supported Programme in Maldives
November, 2008.

Foreword

HIV/AIDS has been with us for over two decades, but it remains a predicament whose solution continues to elude us all. Some progress has been made in understanding this challenge, but there is still a long way to go in containing its spread.

Although Maldives, compared to other countries in the region, has a very low prevalence of HIV, the challenge faced is to ensure it remains a low HIV prevalence country in spite of the increasing high risk behaviours among some population groups. It was around this strategy that the goal of a broad national HIV AIDS programme designed to guide the country's response to HIV/AIDS - and implemented with funding from the Global Fund to Fight AIDS, Tuberculosis and Malaria (GFATM) - was based.

The national HIV AIDS programme recognizes the importance of creating a supportive environment through appropriate preventive and curative interventions; to ensure not only support for HIV/AIDS initiatives but also to reduce the stigma and discrimination often facing people who are at risk of contracting HIV/AIDS in the Maldives.

In a bid to augment the objectives set in the programme, a Biological and Behavioural Survey on HIV and AIDS (BBS) - the first of its kind in the Maldives - was conducted in 2008 with an aim to further understand the high risk populations and their behaviours. This report presents the findings and results of the survey, which is hoped to contribute to designing the interventions to address the behavioural risks among the targeted populations.

The United Nations System in the Maldives remains unified in the fight to curb this epidemic and continues to play a central role as the Maldives enters a pivotal time in its history; identifying and addressing the key risk factors and implementing behaviour change communication strategies are among new challenges in maintaining the low prevalence which will decide the country's future.

In this context, the United Nations Development Programme's commitment to the national HIV AIDS programme titled "Enhance the response to HIV/AIDS in the Maldives" means pledging to support the implementation of the National Strategic Plan on HIV/AIDS and more broadly, promoting a multi-sectoral approach in the interventions to combat the spread of the disease in the country.

Mr. Patrice Coeur-Bizot
UNDP Resident Representative

Foreword

The 2008 Global AIDS Epidemic report, in 2007, the number of people living with HIV was reported to be 33 million due to continuing new infections. Across South/South-East Asia and East Asia, nearly 5 million are living with HIV/AIDS but there is wide variation in the epidemic across the region.

Maldives, is one of the countries in Asia, categorized under the low level epidemic state. This is based on the passive surveillance system which reports cases of HIV from health facilities. However, the country's vulnerability to HIV in terms of high prevalence of substance abuse and increasing injecting drug use; its tourism industry and influx of migrant workers, posed a big question on the minds of experts. Situational assessment was done in 2006 which revealed the risk behaviors existing among subsets of the general population found to be at higher risk for HIV. Still, no active HIV surveillance system was established because of the absence of any data that will validate the existence of a sizeable number of Female Sex Workers (FSW), Males having sex with Males (MSM) and injecting drug users (IDU).

Approval of the country's Global Fund proposal paved the way for the implementation of the very first Biological and Behavioral Survey (BBS) on HIV. BBS was expected not only to provide the baseline data for which the country can base its targets for its national strategic plan and the national M&E plan but also herald the establishment of an active surveillance system that will serve as warning device regarding the country's epidemic state.

Just like other countries in its infancy state as regards HIV, sites were prioritized to conduct the BBS. This was based on the highest risk in terms of urbanization where commercial sex and drug use may be rampant. One of the biggest challenges in crafting intervention programs for HIV is the cultural and religious beliefs among policy makers and opinion leaders which has placed the country in a state of denial. This first BBS provides evidence which clearly shows that indeed the country's risk is evolving and an impending epidemic may just happen if we remain complacent.

The detection of an HIV positive coupled with findings of ulcerative STI (syphilis), Hepatitis B and Hepatitis C, the population overlap among the risk groups, the low self-risk perception, the existence of knowledge-practice gap, the low condom use and unsterile needle and syringe sharing, among IDU, the poor health-seeking behavior and poor uptake of VCT urges us to plan programs to address this problem as a priority.

The key to success of preventing HIV in a country is the strong leadership and intersectoral commitment coming from the highest authorities. The Ministry of Health is committed to address the growing problem of HIV and STI, in view of the evidence of this study and the strategic direction endorsed by the National AIDS Council in the HIV/AIDS strategic plan. The Ministry of health is optimistic that its partnership with the UN agencies, other government agencies and the budding NGOs will bring to reality its vision of maintaining low HIV prevalence and control the spread of HIV transmission in the Maldives.

Dr. Abdul Azeez Yoosuf
Deputy Minister of Health and Family

Executive Summary

This first BBS, conducted in selected sites, highlights the different factors that could play a role in the development of a future HIV epidemic in the Maldives. These include the presence of ulcerative STI (syphilis) and hepatitis C, overlapping risk populations, low self-risk perception for HIV, a knowledge-practice gap, poor health-seeking behavior and the lack of well-established HIV prevention programs.

A 0.2% (1 out of the 484 resort workers tested) HIV prevalence was detected among the resort workers in the Maldives. Although still below 1%, this was coupled with a 1.2% prevalence of syphilis, an ulcerative STI which is known to increase greatly the risk for acquiring or transmitting HIV. Other STIs were also found among the different risk groups. Hepatitis B was found in 2% of resort workers[1], 6% of MSM in Addu[2] and 1% of MSM in Male'[3], in 4% of seafarers[4], 2% of migrant construction workers[5], and 0.8% of IDUs in Addu[6]. Hepatitis C was found in 0.7% of IDUs in Male'[7] and in 0.8% of IDUs in Addu[8]. The presence of Hepatitis C reflects sharing of needles and syringes – the most efficient way of transmitting the HIV virus.

Nascent HIV epidemics, such as the one in the Maldives, are driven by the populations most likely to engage in behaviors that would put them into contact with the virus, such as sharing of needles and syringes and unprotected anal or vaginal intercourse with multiple partners. These populations include IDUs, FSWs and their male clients (represented by occupational cohorts of men such as construction workers, resort workers and seafarers), MSM and youth. These groups are not isolated from each other, nor are they isolated from other members of the society. It has been clearly shown how HIV and STI pathogens enter a population through the traditional core transmitter groups (such as FSW and clients) and then move beyond these groups through sex with non-regular partners, male-to-male sexual partnerships and the overlap of commercial sex and injecting drug use.

A glaring finding of this report is that unprotected sex with multiple partners is prevalent among the groups at higher risk, and that sharing of unsterile needle and syringes is common among IDUs (31% Male', 23% Addu). This study also found risky behaviors among the 15-17 year olds and the older youth, including buying and selling of sex, sex with non-regular partners, pre-marital sex, group sex and drug injecting. However, these behaviors are not consistent with the self-perception of risk. The great majority of respondents believe they will not get HIV. Some 3 to 6% believe that religion alone will protect them from HIV.

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[1] 95% Confidence Interval (CI) 0.58 - 2.68. Confidence interval is used to indicate the reliability of an estimate.
[2] 95% CI 1.14 - 15.1
[3] 95% CI 0.04 - 7.81
[4] 95% CI 1.10 - 9.93%
[5] 95% CI 0.58 - 2.68
[6] 95% CI: 0.02 - 4.28
[7] 95% CI: 0.018 - 3.66
[8] 95%CI 0.028-4.28

The frequency of self-reported signs and symptoms of STI reflected the risky sexual practices of the groups. Although, 65-80% of the respondents are aware of the ways to prevent HIV transmission, condom use is extremely low among all groups. This scenario is aggravated by poor health-seeking behavior. Despite the availability of health clinics, most respondents prefer self-medication or simply do nothing about STI symptoms.

Access to prevention programmes is still very limited. Except for seafarers, MSM and FSW in Male', less than 40% of the respondents were reached with HIV prevention programs in the past year. VCT uptake is also low, and less than 50% even knew a place they could have an HIV test. Condom distribution reached less than 40% last year, and less than 15% of IDUs had access to clean needles and syringes through programmes.

Although HIV prevalence among the populations at greater risk is still apparently very low in the Maldives, the country has all the risk factors that could lead to a future epidemic. The government, in partnership with other non-government organizations, urgently needs to develop an intervention programme offering a full package of services, including outreach education, STI screening and treatment, condom distribution, and distribution of clean needles and syringes.

Finally, surveillance must remain at the forefront of the country's HIV response. The strategy utilized by this first BBS – monitoring the populations at greatest risk – is the most epidemiologically sound method for identifying emerging epidemics and responding to behavioral risks among the most vulnerable groups.

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- Ministry of Youth and Sports
- Youth Health Café
- JOURNEY
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- Ministry of Tourism and Civil Aviation
- Ministry of Transport
- Maldives Police Service
- Attorney General's Office
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Abbreviations and Acronyms

AIDS	Acquired Immune Deficiency Syndrome
BBS	Biological and Behavioral Survey
BCC	Behavior Change Communication
CCM	Country Coordinating Mechanism
DPH	Department of Public Health
ELISA	Enzyme-linked Immunosorbent Assay
FSW	Female Sex Worker
HIV	Human Immunodeficiency Virus
IDU	Injecting Drug User
IEC	Information, Education and Communication
IGMH	Indira Gandhi Memorial Hospital
MARP	Most-at-Risk Population
MSM	Men who have Sex with Men
NAC	National AIDS Council
NAP	National AIDS Programme
NGO	Non-government Organization
NNCB	National Narcotics Control Bureau
OCM	Occupational Cohorts of Men
RIBA	Recombinant Immunoblot Assay
STI	Sexually Transmitted Infection
TWG	Technical Working Group
UNAIDS	Joint United Nations Programme on HIV/AIDS
UNICEF	United Nations Children's Fund
UNDP	United Nations Development Programme
WHO	World Health Organization

INTRODUCTION

The government of Maldives recognizes the central role of surveillance in response to HIV.[9] The 2006 Situational Assessment of HIV in the country found that one of the gaps in the national response to HIV and AIDS was the lack of an active surveillance system that would serve as early warning device to the epidemic state of the country.[10] The Assessment also noted that the lack of information on the size of the most-at-risk population was one of the reasons why biological and behavioral surveillance has not yet been established. The Global Fund proposal to fight against AIDS, TB and Malaria has helped open the door and accelerate the national response to HIV, AIDS and STI, and one of its contributions is this first Biological and Behavioral Survey (BBS). The BBS is intended to provide not only the baseline data for evidence-based program planning, monitoring and evaluation, but also a window on the potential for an emerging epidemic in the Maldives.

Background

Maldives is a double-chain of coral islands located on the Lacadives-Chagos submarine ridge in the Indian Ocean. The coral islands are made up of 26 natural atolls. There are 196 inhabited islands and 998 uninhabited islands. The country has a population of 309,575 (male 156,714, female 152,861), 36% of which comprises the youth population.[11]

Maldives is popular for its beautiful resorts, so it is not surprising that 30% of the country's Gross Domestic Product (GDP) comes from tourism. Europe is the leading tourism market to the Maldives, with a market share of 76.0% (457,535 tourists in 2006). Italy, United Kingdom, Germany, France, Switzerland, Russia and Austria are the top European countries contributing to the tourism market of Maldives. Other Asian countries, particularly, Japan, China, Korea and India contribute 20.2% to the industry. While beneficial in many ways, the growing tourism industry makes the country vulnerable to HIV through the influx of tourists and expatriate workers.

[9] National HIV/AIDS and STI Surveillance Guidelines. Department of Public Health, Ministry of Health. Republic of Maldives.

[10] National HIV/AIDS Council, Ministry of Health of the Maldives, UN Theme Group on HIV/AIDS. The HIV AIDS Situation in the Republic of Maldives in 2006.

[11] Ministry of Planning and National Development. Statistical Yearbook of Maldives. 2007.

Objectives of this Biological and Behavioural Survey on HIV/AIDS

The general objective of the 2008 BBS was to provide baseline data for a better understanding of the situation of the most-at-risk populations (MARPs), including the most-at-risk adolescents (MARA) in the Maldives. The study was designed in an effort to answer the following research questions:

1. Are the MARPs in Maldives large enough to fuel an HIV epidemic in the country? If so, what is the situation of MARPs/MARA in the country?
2. What is the prevalence of HIV and STI among the MARPs and MARA in the Maldives?

Significance of this survey

Since the BBS was designed to provide the baseline information about MARPs and MARA in the Maldives, its findings will aid in developing a more focused national response, with better interventions. BBS findings have already been used to guide the development of a Behavior Change Communication Strategy that addresses the communication needs of specific target groups. The information gathered from the study is also being used in advocacy for policies needed to create an enabling environment for an effective response.

Limitations of the BBS

The BBS was designed to cover those population groups defined as Most- At-Risk Populations (MARPs) and Most-At-Risk Adolescents (MARA) in the Maldives (please see inclusion criteria in the methodology). However, the sample population of Maafushi prisoners was dropped from the BBS because of the country's plans to collect data separately. Without data from this key population, the picture of risk cannot be considered entirely complete.

Due to funding constraints, the BBS Coordinating Body decided to prioritize sites considered at highest risk for HIV; thus, BBS was done only in Male' (Male' City, Vilingili, Hulhumale'), Addu and Laamu (Gan).

Moreover, because of issues surrounding the target populations, compounded by religious sensitivities, the team limited its selection of respondents to those were are 18 years and above, except for the youth group and for those IDUs, FSWs and MSM under l8 whose parents/guardians consented to their inclusion in the study.

The study was a descriptive one, focused on the risk of getting HIV, as well as knowledge of its transmission and available program interventions (please see Appendix A for the approved research protocol).

METHODOLOGY

Sample Selection:

The surveillance populations chosen are those most vulnerable to HIV transmission in an emerging epidemic – populations with high risk behaviors such as unprotected sex with multiple partners or sharing needles and syringes when injecting drugs. Additional population selection criteria were that the groups had to be accessible to study teams, and that there should be interventions either being implemented or planned for them.

Groups selected for the survey, total sample sizes and methodology are described here (and summarized in Table 1).

1. **Female sex workers (FSWs):** Females less than 49 years old who are within a network of sex work in Maldives (transactions can be made through pimps or other gatekeepers such as taxi drivers/hotel guards/receptionists; by telephone; in guest houses, traditional medicine clinics, resorts or other cruising areas); who have accepted cash, kind or drugs in exchange for sex in the past month (if in kind such as mobile phone, tours, perfume, or in drugs, quantification is needed for purposes of comparability). Both Maldivians and expatriates were included in the sample. The sample of 102 (for the behavioral survey) and 94 (for the serological survey) were gathered using snowball sampling in Male' and Addu.

2. **Men who have sex with Men (MSM):** Males who had oral/anal sex with other males in the past year, who are less than 65 years old; either Maldivian or expatriate. The samples of 126 (behavioral survey) and 124 (serological survey) were captured using snowball sampling in the two sites.

3. **Injecting Drug Users (IDUs):** Persons who injected drugs at least once for recreational purposes in the past six months; who are less than 50 years old; either Maldivian or expatriate. Samples of 276 (behavioral survey) and 278 (serological survey) were captured using snowball sampling in Male' and Addu.[12]

4. **Occupational Cohorts of Men (OCM):** Men belonging to occupational groups known to be frequent clients of sex workers. Three groups were chosen:
    - **Seafarers:** Male seafarers who returned to the Maldives in August 2008 after contracts of at least six months, 65 years old and below; Maldivian.
    - **Construction Workers:** Male construction workers, age 25-49, who had been working in Male' within the past six months; all were expatriates.
    - **Resort Workers:** Male resort workers, 20-49 years old; employed in a resort in the Maldives within the past six months; Maldivian or expatriate.

[12] Note that some of these IDUs may usually take drugs by a different method. However, injecting even occasionally puts them at high risk of HIV, due to the extreme efficiency of HIV transmission through injecting.

The samples of 660 (behavioral) and 686 (serological) were collected using simple random sampling for the seafarers and construction workers and cluster sampling for the resort workers.

5 **Youth:** Maldivian males and females 15-24 years old attending school, out-of-school or already employed. Samples of 605 (behavioral) and 609 (serological) were gathered using cluster sampling in Male' and purposive sampling in Laamu

See Appendix B: survey protocol, and Table 1, below.

Table 1. Sample Size per Risk Group
BBS, Republic of Maldives, 2008

		Sample Sizes*	
		Behavioral	**Serologic**
FSW	Snowball	34 in Male' 68 in Addu	32 in Male'; 62 in Addu
MSM	Snowball	69 in Male' 57 in Addu	69 in Male' 55 in Addu
IDU	Snowball	147 in Male' 129 in Addu	150 in Male' 128 in Addu
OCM:			
Seafarers	Simple random sampling	99	100
Construction Workers	Simple random sampling	101	102
Resort workers	Cluster sampling	460	484
Youth	Cluster sampling; Purposive sampling	460 in Male'; 145 in Laamu (Gan)	469 in Male'; 140 in Laamu (Gan)
Total		**1,769**	**1,791**

*****Note that while most of the respondents agreed to participate in both the behavioral and serologic components of the study, some respondents accepted one and refused the other. This explains the discrepancies in the totals.

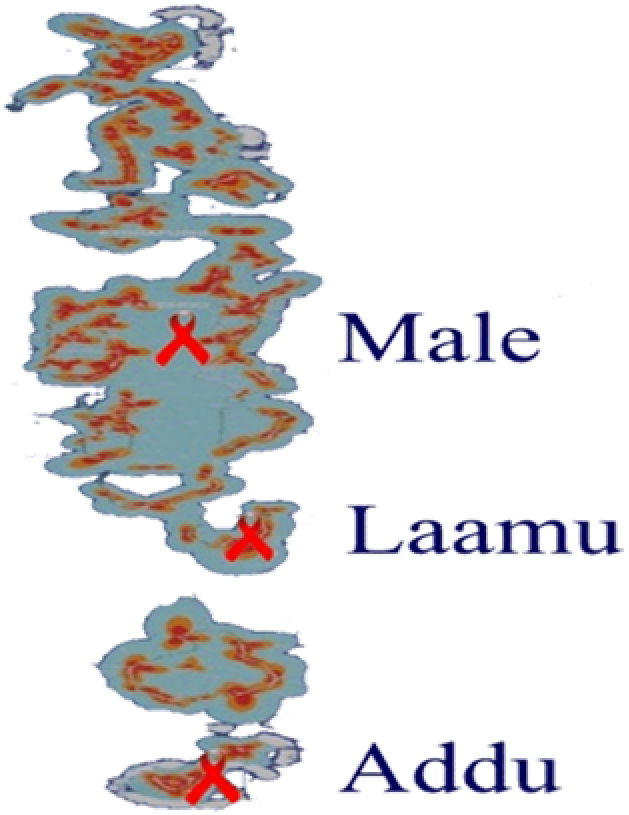
Survey sites:

Surveillance sites were selected by the surveillance coordinating body based on the following criteria:

1. Documented site where sex work and/ or drug activities take place
2. Sites likely to be frequented by risk groups due to the presence of business, ports, schools)
3. Sites where STIs had been reported

The final surveillance sites included Male' (which includes Hulhumale' and Vilingili), Addu and Laamu (Gan) (See Figure 1).

Figure 1. BBS Sentinel Sites, Republic of Maldives, 2008



Rapid Assessment:

Rapid assessment was done during the first two weeks of April to gather information regarding the existence of the risk groups in the country. Key people from the government and non-government agencies were interviewed, as well as informants such as taxi drivers, guest house and hotel receptionists and guests, and café' workers were interviewed. Records regarding drug cases, expatriate employment, tourism industry, shipping business and population distribution were also reviewed.

Mapping:

Mapping was done for two weeks in the three sentinel sites in May 2008 (see Appendix C for the mapping protocol). The objectives of the activity were to identify areas where the at-risk populations can be found and to determine their rough size estimates. Mappers were trained in each site before mapping began. Data collection took place for two months from July to August 2008. In each site, enumerators were selected for each risk group. IDU enumerators were either former IDUs, former drug users, or peers of the IDUs. FSW and MSM enumerators were chosen based on their research experience or their association with the two groups. OCM enumerators were males aged 19-29, while the youth enumerators were in-school or out-of-school youth aged 18-24. The enumerators were given a rigorous four days of training. The Department of Public Health-GFATM, together with UNDP-GFATM, other members of the coordinating body, the Regional Hospital BBS focal points, IGMH BBS point person and the BBS consultant supervised and monitored the teams.

Data Collection Methods:

The data collection methodology for FSWs, MSM and IDUs in Male' initially followed the respondent-driven sampling (RDS) technique. However, the teams had difficulty getting recruits from the initial seeds for FSWs and MSM, while for IDUs other external factors hampered recruiting after three waves. The two months data collection period was also challenged by pressure from police raids and unexpected gender and child abuse issues. To address these issues, the Department of Public Health in coordination with the Ministry of Health, the Ministry of Gender, the Youth Ministry, NNCB and the Police Department established a Quick Response System. Despite coordination with these agencies, recruitment of the FSWs, MSM and IDUs remained so difficult for the teams that a shift from RDS to snowball sampling was made to obtain the desired sample size.

Data Entry and Management:

Data entry and management was done by the UNDP IT consultant under the supervision of the BBS consultant, who also conducted further analysis using Epi Info version 6 and C-sample and generated frequencies for the indicators identified in the protocol.

Testing of Blood:

Testing of blood specimens for HIV, hepatitis B, hepatitis C and syphilis was done centrally at the National Reference Laboratory, IGMH. The BBS followed the WHO/UNAIDS testing strategy for surveillance using ELISA and confirmed by RIBA. After a series of discussions by the coordinating body members, it was decided by the Ministry of Health and agreed by the members of the body that testing would be linked and anonymous (that is, a person consents to have an HIV test with the assurance that only that person can link him/herself to the test results through a code that will be given to him/her).

FINDINGS

The BBS yielded findings of different types – demographic profiles on groups at risk; seroprevalence data; size estimates; and information on the knowledge, attitudes and behaviors of these groups on HIV and STI.

Socio-demographic Profiles:

The BBS provided a clearer demographic picture of various populations considered high risk for HIV who may be a potential flashpoint for a future epidemic in the Maldives.

FSWs in Male': A total of 34 FSWs responded to the behavioral survey in Male' (see Table 2); only one was an expatriate. Their median age was 24 years old: 19 (56%) were 18-24 years old, while 15 (44%) were 25 – 40. Almost a quarter were married. In education, 35% had reached grade 8 level, 26% reached GCE O' level and only one FSW did not go to school. The monthly income ranged from MRF800-36,000 (median MRF2,800). Most (41%) had dependents: the majority of their dependents were children, followed by parents and grandparents. Sixty-five percent of the Male' FSW resided in the area, more than half lived with their parents. Their median stay in the area was 23 years.

Table 2. Socio-demographic Profile of FSW in Male'
BBS, Maldives, 2008

Socio-demographic variables	18-24 years old (n=19)		25 and above (n=15)	
	Frequency	Percentage (%)	Frequency	Percentage (%)
Residence				
- in the sentinel site	11	58	11	73
- another atoll	8	42	3	20
- another country			1	7
Place staying				
- own house	3	16	3	20
- parents' house	9	47	7	47
- spouse's house	1	5	0	0
- rent	6	32	5	33
House mate				
- spouse	2	11	2	13
- parents	15	79	8	53
- friends	0	0	3	20
- children	0	0	1	7
- others	2	11	1	7
Education				
- never	0	0	1	7
- grade 1-7	2	11	5	33
- grade 8-10	8	42	4	27
- GCE O' level	6	32	3	20
- High school	1	5	2	13

Socio-demographic variables	18-24 years old (n=19)		25 and above (n=15)	
	Frequency	Percentage (%)	Frequency	Percentage (%)
- Vocational	0	0	0	0
- College/faculty	2	11	0	0
- Undergraduate	0	0	0	0
- Post graduate	0	0	0	0
Marital status				
- never married	11	58	1	7
- married	4	21	4	27
- separated	0	0	0	0
- widowed	0	0	0	0
- divorced	4	21	10	67
With dependents	6	32	8	53
Dependents				
- child	4	67	5	62
- parents/grandparents	1	17	2	25
- siblings	1	17	0	0
- husband	0	0	0	0
- extended family	0	0	1	12
Monthly Income	MRF3,000 (median) MRF800-36,000		MRF2,800 (median) MRF200-7,000	

FSWs in Addu: A total of 68 FSW respondents responded to the behavioral survey (see Table 3). They ranged from 13 to 48 years of age : one was 13 years old, six (9%) were between 15-17 years old, 16 (24%) were between 18-24 years old and 45 (66%) were 25 or older. The median age of FSWs was 30 years old. Most (52%) of the FSWs in Addu were married. Most had only a primary education (grade 1 – 7), but in the 15 – 17 age group, half had attained grade 8 – 10, and two from the 15-17 year age group, one from the 18-24 year group and four from the 25 and older group had never gone to school. Their monthly income ranged from MRF200 to MRF 7,000, with a median of MRF2,000. The 13-year old FSW still lived with her parents, while one from the 15-17 age group had her parents as dependents. For 53% of those l8 and older, children, parents or siblings were dependents. The FSWs in Addu had resided in the area for a median of 28 years.

Table 3. Socio-demographic Profile of FSW in Addu
BBS, Maldives, 2008

Socio-demographic variables	10-14 years old (n=1)		15-17 years old (n=6)		18-24 years old (n=16)		25 years and above (n=45)	
	Frequency	(%)	Frequency	(%)	Frequency	(%)	Frequency	(%)
Residence								
- in the sentinel site	1	100	6	100	16	100	45	100
- another atoll								
- another country								

Socio-demographic variables	10-14 years old (n=1)		15-17 years old (n=6)		18-24 years old (n=16)		25 years and above (n=45)	
Place staying								
- own house	1	100	3	50	7	44	19	42
- parents' house			3	50	9	56	4	31
- spouse's house								
- rent							8	18
							4	9
House mate								
- spouse					3	20	13	30
- parents	1	100	4	80	12	80	16	37
- friends							6	14
- children							7	16
- others			1	20			1	2
Education								
- never			2	33	1	6	4	9
- grade 1-7	1	100	0		9	56	35	78
- grade 8-10			3	50	1	6	6	13
- GCE O' level			1	17	5	31		
- High school								
- Vocational								
- College/faculty								
- Undergraduate								
- Post graduate								
Marital status								
- never married	1	100	5	83	8	53	2	4
- married								
- separated					6	40	28	62
- widowed							2	4
- divorced							2	4
					1	7	11	24
With dependents	0		1	17	6	40	24	53
Dependents								
child					2	33	17	71
parents/ grandparents			1		1	17	1	4
siblings					2	33		
husband					1	17		
extended family							6	25
Monthly Income					MRF1,500		MRF2,000	

MSM in Male': In Male', a total of 69 MSM responded to the behavioral survey. (See Table 4). They ranged in age from 10 to 55; the median age was 27. One was 10 years old, 34 (55%) were 18-24 years old and 44 (64%) were 25 years and older. Expatriates accounted for 16% of the Male' MSM, and 16% were expatriates. Twenty-nine percent were married. A quarter had reached grade 8-10 level, and 14% had reached GCE O' level, while 6% had no formal education. About 30% were unemployed.

Table 4. Socio-demographic Profile of MSM in Male'
BBS, Maldives, 2008

Socio-demographic variables	10-14 years old (n=1)		15-17 years old (n=0)		18-24 years old (n=34)		25 and above (n=44)	
	Frequency	%	Frequency	%	Frequency	%	Frequency	%
Residence								
- in the sentinel site	1				9	38	17	39
- another atoll					10	42	21	48
- another country					5	21	6	14
Education								
- never	1						3	7
- grade 1-7					11	46	14	32
- grade 8-10					5	21	13	34
- GCE O' level					3	12	7	16
- High school					4	17	2	4
- Vocational							2	4
- College/faculty					1	4	2	4
- Undergraduate							1	2
- Post graduate								
Marital status								
- never married	1				21	88	17	39
- married					3	12	17	39
- separated							1	2
- widowed							1	2
- divorced							8	18
Occupation								
- unemployed	1				7	29	16	41
- self-employed					6	55	15	34
- employed, permanent					5	21	7	16
- employed, contractual							4	9
- students								
- others								

MSM in Addu: A total of 57 MSM responded to the behavioral survey in Addu, ranging in age from 13 to 55 (see Table 5). One was 13, another was 17. Twenty-four (42%) were between 18-24 years old and 31 (54%) were 25 years and older. The median age was 25. There were 17 expatriates included in the sample. Among the respondents, 26% were married. A quarter had reached grade 8-10 level, 4% reached GCE O' level while 21% had no formal education. Twenty-eight percent were unemployed.

Table 5. Socio-demographic Profile of MSM in Addu
BBS, Maldives, 2008

Socio-demographic variables	10-14 years old (n=1)		15-17 years old (n=1)		18-24 years old (n=24)		25 and above (n=31)	
	Frequency	%	Frequency	%	Frequency	%	Frequency	%
Residence								
- in the sentinel site	1		1		16	67	21	68
- another atoll							1	3
- another country					8	33	9	29
Education								
- never					2	8	10	32
- grade 1-7	1				13	54	11	36
- grade 8-10					6	25	8	26
- GCE O' level			1		1	4		
- High school					1	4		
- Vocational							1	3
- College/faculty							1	3
- Undergraduate								
- Post graduate								
Marital status								
- never married	1		1		18	75	20	64
- married					5	21	10	32
- separated					1	4		
- widowed								
- divorced							1	3
Occupation								
- unemployed	1		1		7	29	7	23
- self-employed					6	55	10	32
- employed, permanent					5	21	3	10
- employed, contractual					6	25	10	32
- students								
- others							1	3

IDUs in Male': A total of 147 IDUs responded to the behavioral survey in Male', ranging in age from 17 to 45 (see Table 6). Two (1%) were 17 years old, 54 (37%) were between 18-24 years old and 91 (62%) were 25 years or older. The median age of IDU in Male' was 26 years old. Three of the respondents were expatriates. Only 15% were married. Half of the respondents had reached grade 8-10 level, 19% had attained GCE O level, and only 1% had no formal education. The majority (70%) was unemployed. Their income ranged from MRF 5,000 to MRF l8,000, with a medium income, for those who were working, of MRF5, 000.

Table 6. Socio-demographic Profile of IDUs in Male'
BBS, Maldives, 2008

Socio-demographic variables	Total (N=147)		15-17 years old		18-24 years old		25 and above	
	Frequency	Percentage (%)	Male (n=2)	Female (n=0)	Male (n=52)	Female (n=2)	Male (n=89)	Female (n=2)
Education								
- never	2	1					2 (2%)	
- grade 1-7	35	24	1		10 (19%)	1	22 (25%)	1
- grade 8-10	74	50	1		29 (56%)	1	43 (42%)	
- GCE O' level	28	19			10 (19%)		18 (20%)	
- High school	5	3			1 (2%)		4 (4%)	
- Vocational	0	0			1 (2%)			
- College/faculty	1	1			1 (2%)			
- Undergraduate	2	1						1
- Post graduate	0	0						
Marital status								
- never married	100	68	2		45 (86%)	1	51(51%)	1
- married	22	15			5(10%)	1	16(18%)	1
- separated	5	3			1(2%)		3(3%)	
- widowed	0	0			0		0	
- divorced	20	14			1(2%)		19(21%)	
Occupation								
- unemployed	103	70	2		39(75%)	2	59(66%0	1
- self-employed	15	10			4(8%)		11(12%)	
- employed, permanent	13	9			4(8%)		9(10%)	
- employed, contractual	16	11			5(10%)		10(11%)	1
- student	0	0						
- others	0	0						
Monthly Income	MRF15-18,000 (median MRF5,000)				MRF17-15,000	No answer	MRF15-15,000	No answer

IDUs in Addu: A total of 129 IDUs took part in the behavioral survey in Addu, ranging in age from l7 to 49 (see Table 7). One was 17 years old, 51 (40%) were 18-24, and 77 (60%) were 25 years and older. The median age was 25. Most (61%) were never married. In terms of education, 37% had reached grade 8-10 level and 12% had reached GCE O'level. Less than 1% had no formal education. A little more than half (58%) of IDUs in Addu were unemployed. The median monthly income of those who were working was MRF5,000.

Table 7. Socio-demographic Profile of IDUs in Addu
BBS, Maldives, 2008

Socio-demographic variables	Total (N=129)		15-17 years old		18-24 years old		25 and above	
	Frequency	Percentage (%)	Male (n=1)	Female (n=0)	Male (n=50)	Female (n=1)	Male (n=73)	Female (n=4)
Education								
- never	1	0.8					1(1%)	
- grade 1-7	62	48			23 (46%)		36	3 (75%)
- grade 8-10	48	37	1/1		15 (30%)	1/1	(49%)	1 (25%)
- GCE O' level	15	12			10 (20%)		30	
- High school	2	2			1 (2%)		(41%)	
- Vocational	0	0					5 (7%)	
- College/faculty	0	0			1 (2%)		1 (1%)	
- Undergraduate	1	0.8						
- Post graduate	0	0						
Marital status								
- never married	79	61	1/1		37 (74%)		41(56%	
- married	33	26			10 (20%)	1	)	1 (25%)
- separated	7	5			2(4%)		21(29%	2 (50%)
- widowed	0	0			0		)	
- divorced	10	8			1(2%)		3(4%)	1 (25%)
							0	
							8(11%)	
Occupation								
- unemployed	75	58	1/1		29(58%)		42(58%	3 (75%)
- self-employed	34	26			13(26%)	1	)	1 (25%)
- employed, permanent	16	12			6(12%)		20(27%)	
- employed, contractual	4	3			2(4%)		10(19%)	
- student	0	0						
- others	0	0					1(1%)	
Monthly Income	MRF1,300-30,000 median MRF5,000				MRF 1,500	No answer	MRF 5,000	No answer

The Occupational Cohorts of Men

Seafarers

Ninety-nine seafarers took part in the behavioral survey (see Table 8). They ranged in age from 21 to 65; their median age was 43. The majority (80%) were married. More than half had reached grade 1-7 level education, while 12% and 9% reached grade 8-10 and GCE O level, respectively. Their monthly income ranged from MRF 600 to 36,000, with a median monthly income of MRF8,500.

Resort Workers

A total of 460 resort workers responded to the behavioral survey, of which 51 % (236) were Maldivians and 49 % (224) were expatriates (see Table 8). Their ages ranged from 20 to 49, with a median age of 31 years. The majority (75%) were married (72% of the Maldivians and 79% of the expatriates). A quarter had reached grade 1-7 level in education, and another quarter had reached grade 8-10 level. A fifth reached GCE O level. Their self-reported monthly income ranged from MRF 275 to 40,000, with a median of MRF4, 500.

Construction Workers

A total of 101 migrant construction workers, ranging from 25 to 49 years of age, took part in the behavioral survey (see Table 8.) Their median age was 33 years. All were expatriates. The majority (81%) were married, 36% had reached grade 1-7 level, 32% had reached grade 8-10 level and 5% had reached GCE O level. Their monthly income ranged from 1,200 to 25,000, with a median of MRF2,000.

Table 8. Socio-demographic Profile of Occupational Cohorts of Men (OCM) BBS, Maldives, 2008

Socio-demographic variables	Seafarers (N=99)		Resort Workers (N=460)		Construction Workers (N=101)	
	Frequency	Percentage (%)	Frequency	Percentage (%)	Frequency	Percentage (%)
Education						
- never	9	9	20	4	15	15
- grade 1-7	55	56	121	26	36	36
- grade 8-10	12	12	114	25	32	32
- GCE O' level	9	9	78	17	5	5
- High school	0	0	46	10	3	3
- Vocational	5	5	15	3	1	1
- College/faculty	5	5	35	8	2	2
- Undergraduate	1	1	18	4	5	5
- Post graduate	3	3	11	2	2	2
Marital status						
- never married	8	8	103	22	19	19
- married	79	80	346	75	82	81
- separated	2	2	1	0.2	0	0
- widowed	1	1	1	0.2	0	0
- divorced	9	9	9	2	0	0
Monthly Income	MRF600-36,000 (median MRF8,500)		MRF275-40,000 (median MRF4,500)		MRF1,200-25,000 (median MRF2,000	

Youth in Male'

There were 460 youth respondents to the behavioral survey in Male', ranging from 15 to 24 years of age, with a median age of 19. Among the respondents, l7% were married. The median age of marriage was 20 years old (with a range of 16-24 years of age). A little less than half (46%) had reached GCE O' level, while a quarter had reached grade 8-10 level. Only 1% had no formal education. Although 38% of youth in Male' are already working and 31% are students, 14% are just hanging out.

Youth in Laamu

There were 145 youth respondents in Laamu, ranging in age from 15 to 24, with a median of l8. Among the respondents, 23% were married. They married between 17 and 22 years of age, with a median of 20. Half had reached GCE O level, and 38% had reached grade 8-10 level. Forty-four percent were still students, 30% were already working and 14% said they were just hanging out.

The BBS found separation and divorce among the 15-17 year old males in Male' and among the 18-24 year old female youth in both Male' and Laamu (Table 10). Although most of the youth were either working or studying, some were just hanging out (the largest group was among l8-24 year-old females in Male'.)

The following two tables summarize the socio-demographic findings on youth in both Male' and Laamu.

Table 9. Socio-demographic Profile of Youth in Male' and Laamu (Gan) BBS, Maldives, 2008

Socio-demographic variables	Male' (N=460)		Laamu (N=145)	
	Frequency	Percentage (%)	Frequency	Percentage (%)
Sex				
- male	228	50	63	43
- female	232	50	82	57
Education				
- never	3	1	0	0
- grade 1-7	24	5	22	16
- grade 8-10	126	27	46	33
- GCE O' level	214	46	71	50
- High school	57	12	2	1
- Vocational	4	1	0	0
- College/faculty	18	4	0	0
- Undergraduate	12	3	0	0
- Post graduate	2	0.4	0	0
Marital status				
- never married	372	81	108	75
- married	79	17	33	23
- separated	1	0.2	0	0
- widowed	1	0.2	0	0
- divorced	7	2	3	2
Occupation				
- student	200	44	45	31
- working	136	30	55	38
- working student	21	5	0	0
- doing housework, own family	18	4	20	14
- unpaid family member	2	0.4	2	1
- unemployed, job-seeking	11	2	3	2
- hanging out	72	16	20	14

Table 10. Socio-demographic Profile of Youth by Age Group and Sex in Male' and Laamu (Gan)
BBS, Maldives, 2008

Sites	Male'				Laamu			
Socio-demographic variables	Male		Female		Male		Female	
Age Group	15-17 years old n=62	18-24 years old n=166	15-17 years old n=60	18-24 years old n=172	15-17 years old n=19	18-24 years old n=44	15-17 years old n=34	18-24 years old n=48
Education								
- never	1(2%)		1(2%)	1(1%)				
- grade 1-7	6(10%)	8(5%)	3(5%)	7(4%)	2(11%)	10(29%)	4(12%)	6(13%)
- grade 8-10	36(58%)	36(22%)	31(52%)	23(13%)	15(79%)	6(14%)	22(65%)	3(6%)
- GCE O' level	13(21%)	76(46%)	20(33%)	105(61%)	2(11%)	24(57%)	8(24%)	37(80%)
- High school	6(10%)	27(16%)	5(8%)	19(11%)		2(5%)		
- Vocational		2(1%)		2(1%)				
- College/faculty		9(5%)		9(5%)				
- Undergraduate		7(4%)		5(3%)				
- Post graduate		1(1%)		1(1%)				
Marital status								
- never married	61(98%)	145(87%)	59(98%)	107(62%)	19(100%)	37(86%)	32(94%)	20(42%)
- married	1(2%)	17(10%)	1(2%)	60(35%)		6(14%)	2(6%)	25(52%)
- separated		1(1%)						
- widowed				1(1%)				
- divorced		3(2%)		4(2%)				3(6%)
Occupation								
- student	49(79%)	46(28%)	51(85%)	54(31%)	15(79%)	5(11%)	24(71%)	1(2%)
- working	3(5%)	73(44%)	4(7%)	56(33%)	3(16%)	29(66%)	3(9%)	20(42%)
- working student	4(6%)	11(7%)	1(2%)	5(3%)		1(2%)		
- doing housework, own family		3(2%)	1(2%)	14(8%)			4(12%)	15(31%)
- unpaid family member		1(1%)		1(1%)		2(4%)		2(4%)
- unemployed, job-seeking		6(4%)	1(2%)	4(2%)		7(16%)		1(2%)
hanging out	6(10%)	26(16%)	2(3%)	38(22%)	1(5%)		3(9%)	9(19%)

Findings on HIV, STI and Hepatitis Seroprevalence

Since there has been no active HIV surveillance in the country, the Maldives has not yet identified an HIV epidemic in any of the populations likely to be the first affected if HIV does enter the country in a significant way. The country's low prevalence status continues to hold true, based on the passive HIV case surveillance reporting system .However, this first BBS has detected HIV among male resort workers. Among the 46 resorts selected, 0.2%[13] of resort workers were found positive for HIV (Figure 2).

Despite the continued low prevalence of HIV in the Maldives, sexually transmitted infections (STIs) and Hepatitis B and C are present. STIs are important to measure not only because they are a serious public health concern but also because they are a co-factor for HIV transmission. STIs also provide evidence that a route for HIV exists through unprotected sex. Similarly, the presence of Hepatitis B and C shows that a route for HIV exists through sharing of injecting equipment.

[13] 95% CI: 0.006 to 1.14%. Confidence interval is used to indicate the reliability of an estimate.

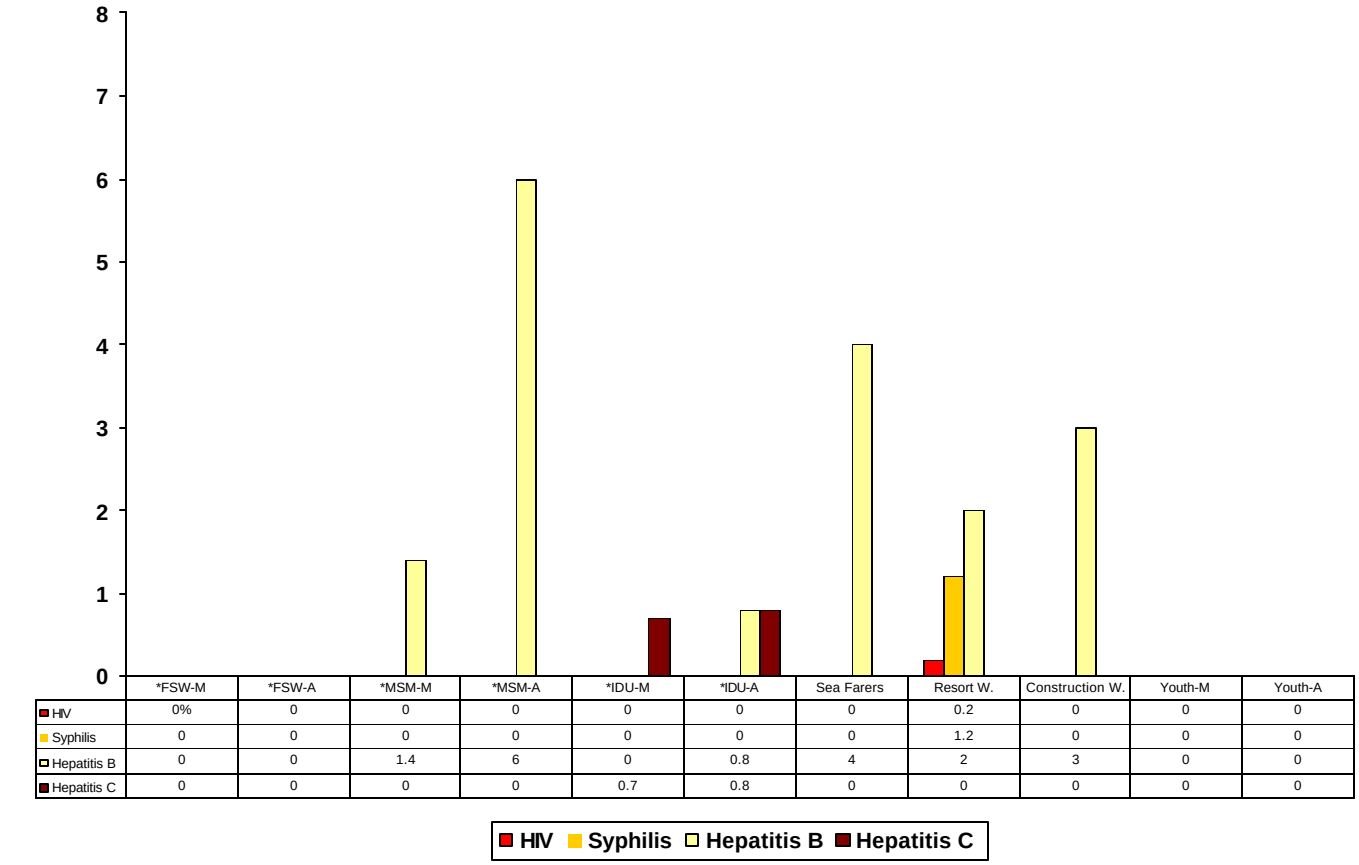
The 2007 HIV/AIDS and STI Case Surveillance Report of the Department of Public Health showed genital ulcers (24 among male outpatients and 40 among female outpatients) among outpatients from IGMH, ADK and health care facilities in the atolls. It must be noted that having an active STI (e.g. chancroid, genital herpes, syphilis) can greatly increase the risk of acquiring or transmitting HIV.

This first BBS measured the prevalence of STIs in these populations. Syphilis prevalence was found to be 1.2%[14] among the resort workers. Hepatitis B was found in the different risk groups as well: in 6% of the MSM in Addu[15], 4% of the seafarers[16], 3% (95% CI: 0.62-8.36%) among construction workers in Male', 2% (95%CI: 0.58-2.68%) among resort workers, 1% (95%CI: 0.04-7.81%) among MSM in Male' and 0.8% (95%CI: 0.02-4.28%) among IDUs in Addu.

Hepatitis C, a measure of a widespread needle and syringe sharing among IDUs, was found among the IDUs in both Male' and Addu. Needle and syringe sharing is a behavior that leads to efficient HIV transmission. The BBS found that 0.7% (85%CI: 0.018-3.66%) and 0.8% (95%CI: 0.028-4.28%) of the IDUs in Male' and Addu, respectively, had Hepatitis C. Although the prevalence of Hepatitis C is still low, this result implies that the virus is already circulating among the injecting drug users

[14] 95% CI: 0.046-2.68%
[15] 95% CI: 1.14- 15.1%
[16] 95% CI: 1.10-9.93%

Figure 2. HIV and STI among the Most-at-risk Populations in Male', Addu and Laamu, 2008 BBS



	*FSW-M	*FSW-A	*MSM-M	*MSM-A	*IDU-M	*IDU-A	Sea Farers	Resort W.	Construction W.	Youth-M	Youth-A
HIV	0%	0	0	0	0	0	0	0.2	0	0	0
Syphilis	0	0	0	0	0	0	0	1.2	0	0	0
Hepatitis B	0	0	1.4	6	0	0.8	4	2	3	0	0
Hepatitis C	0	0	0	0	0.7	0.8	0	0	0	0	0

***FSW-M: FSWs in Male',*FSW-A: FSWs in Addu, *MSM-M: MSM in Male', *MSM-A: MSM in Addu, *IDU-M: IDUs in Male', *IDU-A: IDUs In Addu**

Findings on Risk Behavior

In addition to monitoring HIV and STI prevalence in low level epidemics, it is critical to monitor the behaviors of the highest risk populations to identify where HIV might first emerge and to whom and how the virus might spread, in order to implement targeted interventions to mitigate transmission.

Female Sex Workers

The BBS found that FSWs in Male' began engaging in sex work between ages 15 and 37 (median age of first commercial sex was l9), had sold sex for a median of 5 years and had a median of 4 clients per week. FSWs in Addu began engaging in sex work between ages 12 to 26 (median age of first commercial sex was l7), had sold sex for 13 years, and had a median of 2 clients per week.

FSWs reported that they worked in diverse locations, most commonly in streets, although in Male' a quarter got their clients in guest houses (Figure 3). The 13-year-old FSW in Addu got her clients along the streets, while the 15-to-17-year-old FSWs cruised the same areas as older FSWs.

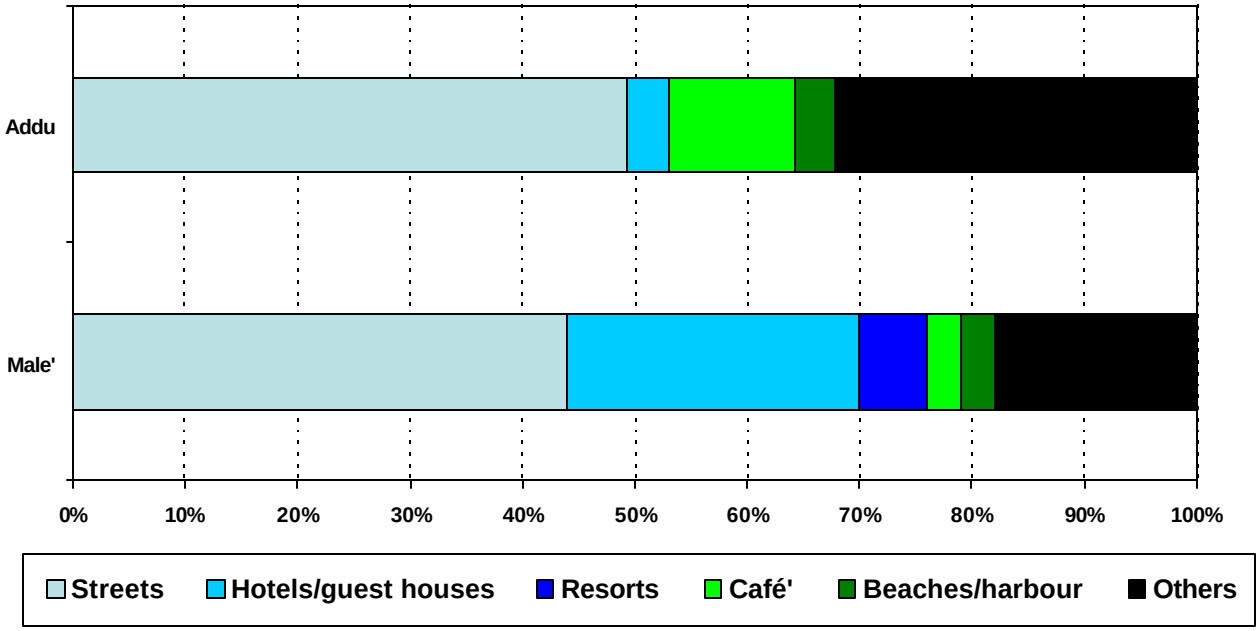
A number of FSWs had sold sex elsewhere: 41% of the FSWs interviewed in Addu had sold sex in another city, as had 15% of FSWs interviewed in Male'. One Male' FSW had sold sex in Malaysia, and another Maafushi (see Table 11).

Table 11. Examples of Mobility of Female Sex Workers

BBS, Maldives, 2008

FSWs from …	Say they also sold sex in…
Male'	Gaafaru, Maafushi, various resorts, Malaysia
Addu	Male', various resorts

Figure 3. Sex Work Contact Locations, BBS, Maldives, 2008



Clients of FSWs

FSWs in Male' reported that the largest number of their clients were unemployed, followed by men working in the private sector, businessmen/traders, government employees, resort workers and the police. In Addu, FSWs reported that their clients were policemen, resort workers and manual laborers.

Table 12 shows the median number of sexual encounters in a month that each client group has with a FSW, while Figure 4 shows the occupations of the clients as described by the FSW respondents.

Figure 4: Clients of female sex workers by occupation, as reported by FSW, BBS, Maldives, 2008

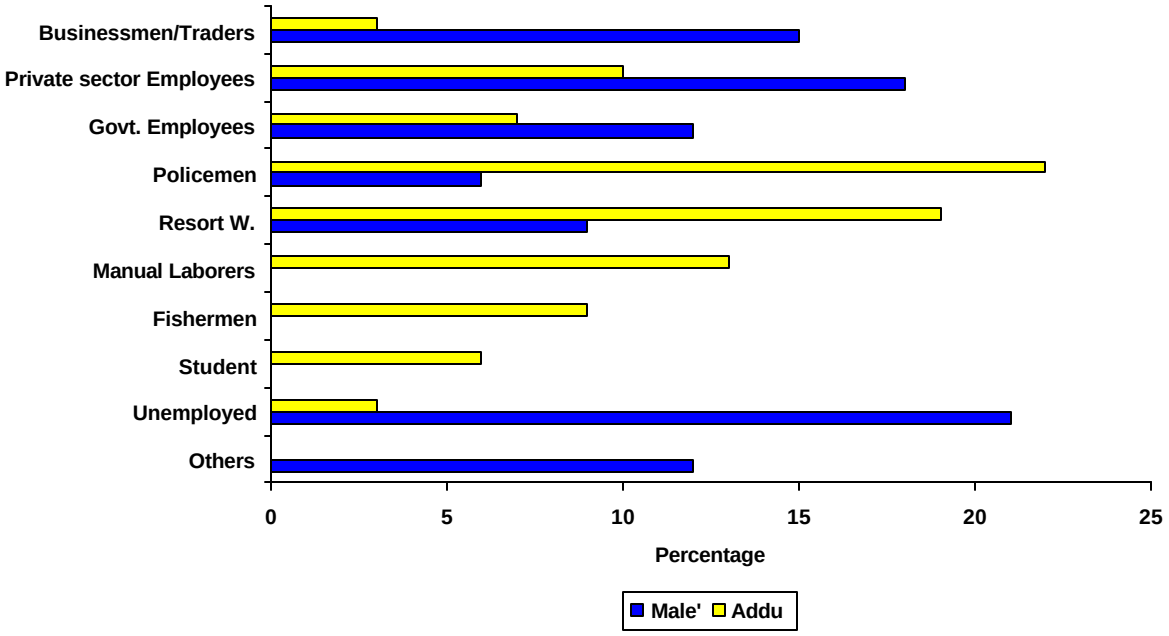


Table 12. Percent OCM Who Had Sex with FSW in the Past 12 Months vs. Median Number of Sexual Encounters with FSW/month BBS, Maldives, 2008

OCM	% Ever had Sex w/ FSW, past 12 months	Median Number of Sexual Encounter w/ FSW per Month
Seafarers	6	3
Resort Workers	4	1
Construction Workers	2	1

Size Estimates of FSW and Client Populations

FSW sex transactions per year must equal the client sex transactions per year, to satisfy the demand-supply equilibrium, thus the BBS findings on frequency of visits by clients to sex workers can be used to make a rough estimate of the size of the sex work industry in a country. The formula is as follows:

FSW X clients per week X # weeks FSW work per year
=
clients X # of client visits to FSW per year

Based on the BBS findings, FSW have commercial sex around four weeks in a month with a median of two clients per week, while clients visit sex workers approximately twice per month (client visits). Using the 5-20% estimated proportion of clients in Asian countries[17] (and applying it to the adult male population of 78,357 in the Maldives:

5% of adult males: $\frac{\text{3,918 clients X 2 sex acts/month X 12 months/year}}{\text{2 clients/week X 4 weeks/month X 12 months/year}}$

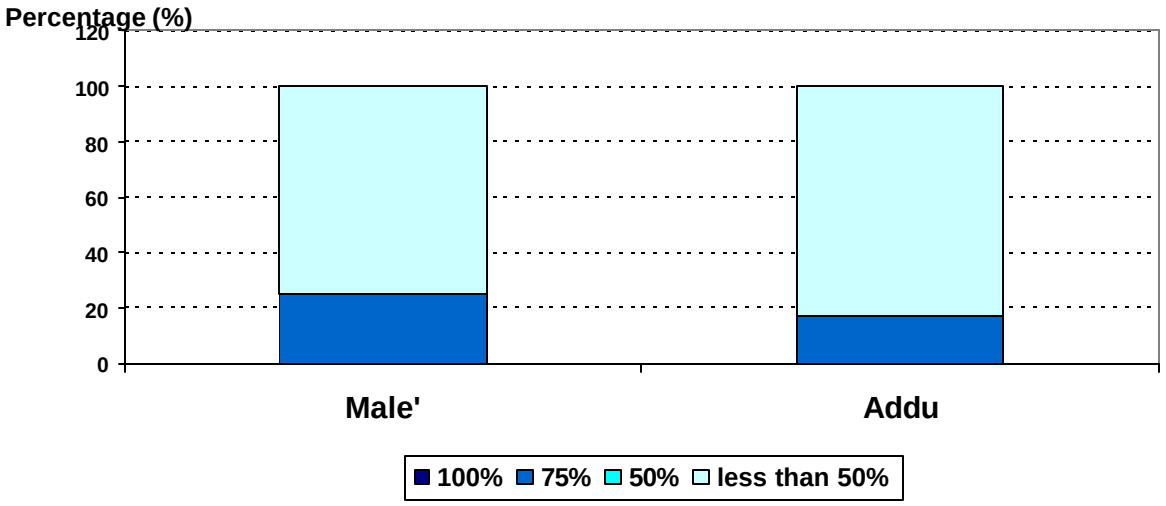
20% of adult males: $\frac{\text{15,671 clients X 2 sex acts/month X 12 months/year}}{\text{2 clients/week X 4 weeks/month X 12 months/year}}$

According to this model, there could be from 980 to 3,918 FSW in the Maldives.

In order to understand the composition of the male client population, sex workers were asked if their clients included expatriates or were all Maldivians. FSWs in Male' (12%) and in Addu (9 %) reported that their clients in the past 12 months included expatriates, but the majority of FSWs reported that more than half of their clients were Maldivians. (see Figure 5)

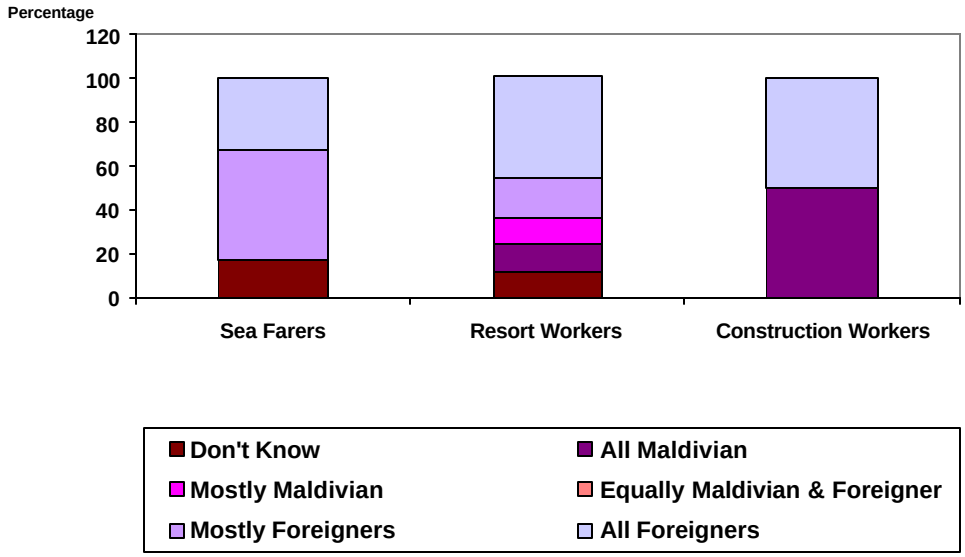
[17] Brown T., Reddy A., and Peerapatanapokin W., Report of the Commission on AIDS in Asia

Figure 5: Percent of FSWs' Clients who were Expatriates
BBS, Maldives, 2008



Clients were also asked about the proportion of expatriate FSWs with whom they had sex with in the past 12 months. Among the OCM, 83% of the Seafarers, 3% of the resort workers and 2% of the construction workers reported that they had expatriate FSW partners in the past 12 months (Figure 6). Among the resort workers, there was no difference between Maldivian and expatriate resort workers in this way; 18% of both reported having sex with expatriate FSWs.

Figure 6. Percent of Clients who Visited Expatriate FSWs
BBS, Maldives, 2008



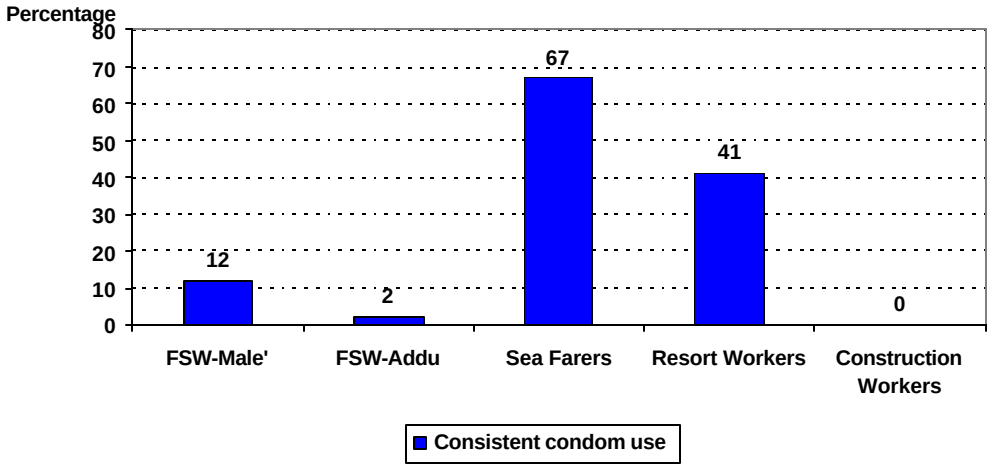
OCM respondents were also asked about how they contacted FSWs. Seafarers reported that they got their FSW partners through pimps, friends and direct transactions at the harbour. Among resort workers who frequented FSWs, 24% reported meeting them through pimps and 12% directly contacted FSWs along the streets. Construction workers contacted FSWs directly

along the streets and at the artificial beach in Male'.

Condom Use among FSWs and OCM

Consistent condom use among FSWs falls below 20% in both Male' and Addu. Among the men (6% of seafarers and 4% of resort workers) who say they visited a FSW in the past 12 months, 67% of the seafarers and 41% of the resort workers say they used a condom. The Maldivian resort workers reported more condom use with FSWs (67%) than did the expatriate resort workers (27%).

Figure 7: Consistent Condom use among FSWs and Their Clients*
BBS, Maldives, 2008



*Percents of OCM refer only to those men who reported sex with FSWs.

FSWs' Condom Negotiation

In Male', only 10 of the 34 FSWs interviewed encouraged their clients to use condoms. Of these, 9 were successful in convincing their partners to use the condoms. In Addu, even fewer FSWs attempted to negotiate condom use. Of 68 FSWs interviewed, only 14 encouraged their clients to use condoms, and only 10 succeeded in convincing them.

Younger FSWs negotiated condom use less successfully than older ones, the BBS found. In Male', among FSWs who were between 18 and 24 years old, 5 encouraged their clients to use condoms and 4 succeeded in convincing them. Among the FSWs who were 25 and older, 5 encouraged their clients to use condoms and all were able to convince them. Similarly in Addu, the 13-year-old FSW did not convince anyone to use condoms; while among the 15-17 year FSWs, only one was able to convince clients to use condoms. Among FSWs of 19-24 years of age, 2 were able to convince clients to use condoms; and among FSWs of 25 and older, 7 were able to convince their clients to use condoms.

Men Who Have Sex with Men

The median ages of sexual debut of MSM were 16 years old and 17 years old in Male' and Addu, respectively. For most, their first sexual encounters were with consensual male or female partners, including girlfriend or wife. However, a fifth of the MSM in Male' experienced forced sex as their sexual debut. Less than 10% in both sites had their sexual debut with a male sex worker (see Figure 8).

The sex partners of MSM were many and varied (see Figure 9). All MSM respondents had sex with another man in the past year, and 48% in the past month. Most had sex with a man where no payment was exchanged. However 44% in Male' and 18% in Addu had sold sex to another man, and 29% in Male' and 18% in Addu had bought sex from a man. The great majority (75%) of MSM also reported having sex with women in the past 12 months. In addition, 16% of MSM in Male' reported that they had met a sex partner on the internet.

Figure 8. Sex Partners of MSM During Sexual Debut
BBS, Maldives, 2008

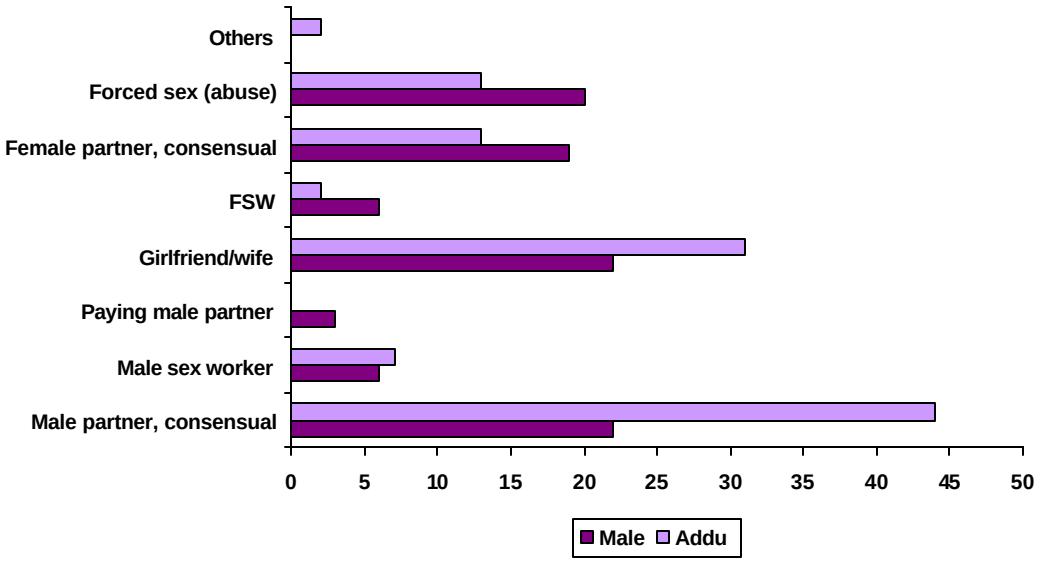
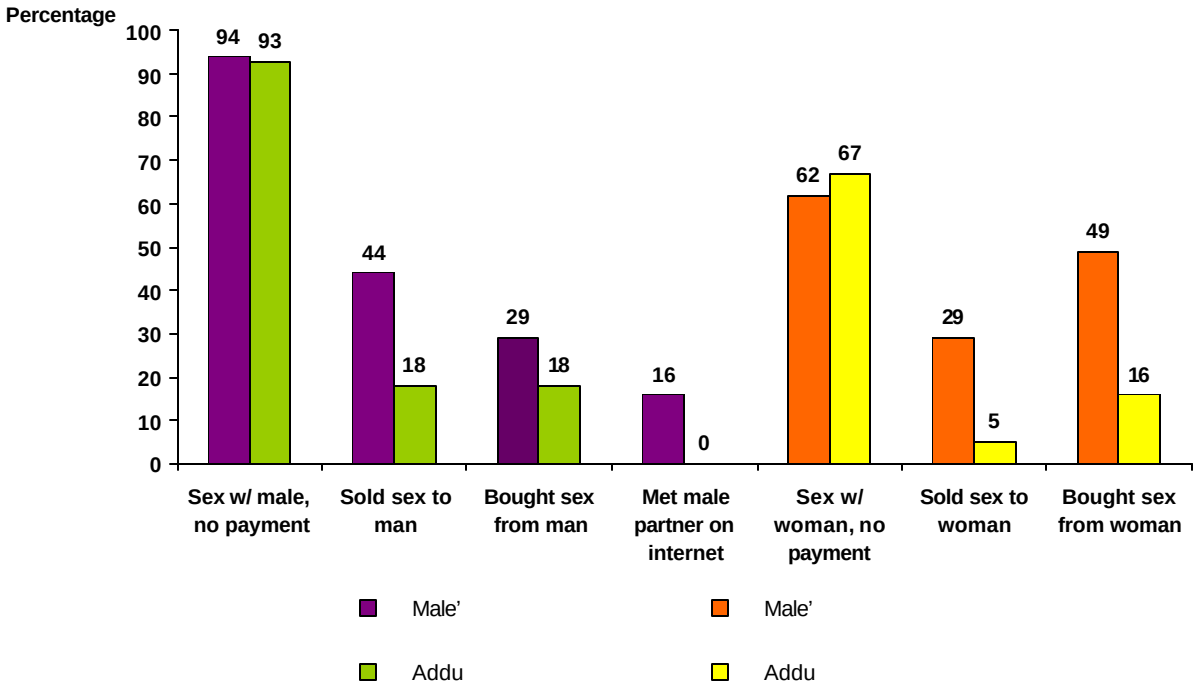
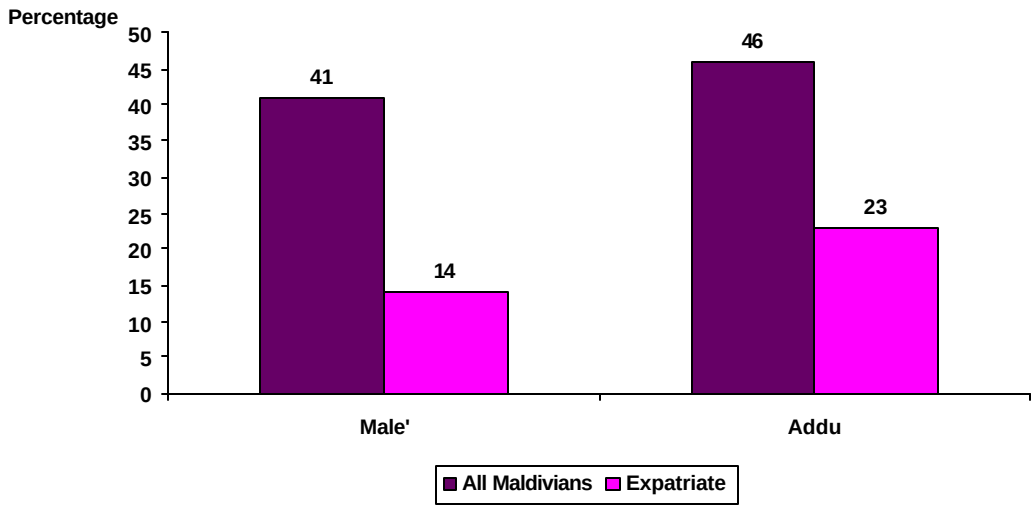


Figure 9: Sex Partners of MSM
BBS, Maldives, 2008



For the most part, male sex partners of MSM were Maldivian; however 23% of MSM in Addu reported sex with an expatriate in the past 12 months (Figure 11).

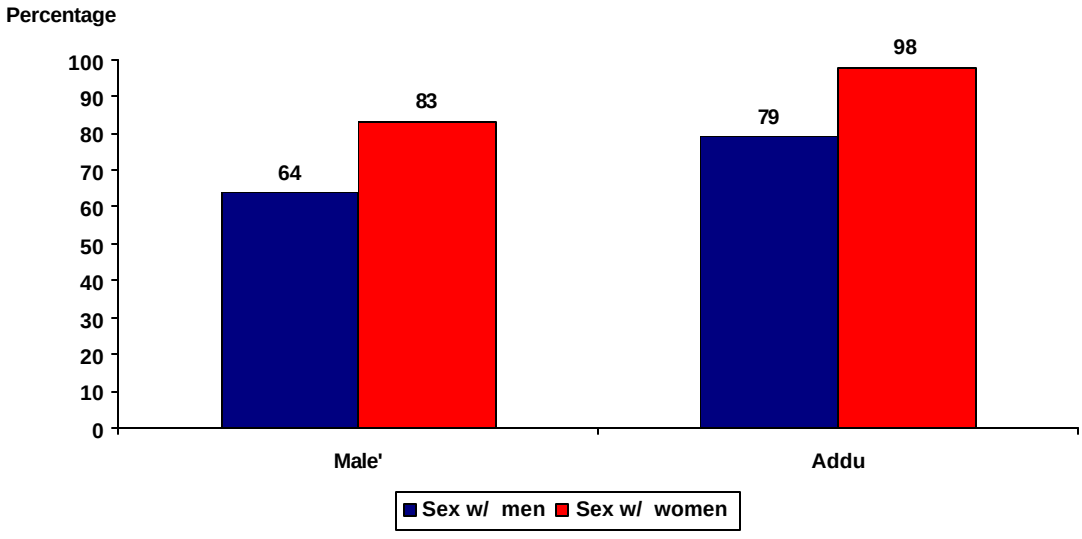
Figure 11: Maldivian and Expatriate Sex Partners of MSM
BBS, Maldives, 2008



Condom Use among MSM

The majority of the MSM interviewed in both Male' and Addu reported having unprotected sex with a man – and frequently also with a woman – in the past 12 months (Figure 10)

Figure 10. Unprotected Sex among MSM
BBS, Maldives, 2008



Injecting Drug Users

Often HIV epidemics first emerge among IDU populations, spread quickly across the IDU group, and then work their way into other population groups through sexual transmission.

The median age of first drug use was 16 (in Male') and 17 (in Addu). The age of first drug use ranged from 9 years old (in both sites) to 32 years old (in Male') and 43 years old (in Addu.) IDUs reported that they first injected age at a median age of 22. The age of first injection ranged from 12 to 42 years old in Male' an 15 to 48 years old in Addu.

In Male' 43% of the Male' IDUs said they injected drugs in the past 30 days. Of these, 50% said they injected one to three times a day while 6% injected four or more times a day. All Male' IDU respondents said they injected heroin, however 1% said they injected Nalbuphine during the last injection.

In Addu, half of the IDUs injected drugs in the past 30 days. A quarter of them claimed to inject at least once a week, 23% injected at least two to three times a week and another 23% injected at least once a day. Heroin was injected by 98% while 2% injected Nalbuphine.

Needle Sharing and Cleaning among IDUs

Among the IDUs in Male', 30% claimed they had shared unsterile needle or syringes with other IDUs at some time, and 22% reported injecting with a previously used needle or syringe the last time they injected. Of those who said they shared, 41% said they had cleaned the equipment prior to using, either by boiling (38%), heating (31%), washing with lemon juice (15%) or washing with water only (5%). Those who cleaned the syringes and needles with water used the same water which the other IDUs used for cleaning.

Similarly in Addu, 28% of the IDUs claimed to have shared unsterile injecting needle/syringe with other IDUs, and a quarter reported that they injected with a previously used needle or syringe the last time they injected. Of those who said they shared injection equipment, half said they cleaned the syringes and needles before injecting. Of those who cleaned, 56% used lemon, 38% used water, and 6% boiled the equipment. All those who cleaned with water used the same water which the other IDUs had used for cleaning.

Other Injecting Behavior

In Male', the majority (72%) of IDUs reported they injected with other IDUs; half of them pooled funds together to buy the drug and divided the drug among them. Similarly, in Addu, most IDUs (61%) said they injected with other IDUs, pooled funds to buy the drug and divided the drug among them.

Among the IDUs who had injected during the past 30 days, 68% in Male' and 80% in Addu injected away from home and did not carry a syringe with them. Their reasons were fear of being apprehended by police and the availability of needles and syringes at the site.

Forty-two percent of the Male' IDUs and more than half of the Addu IDUs said they injected in an IDU hang-out (a place where the IDUs congregate to inject drugs). When the Male' IDUs

were asked about the last time they frequented the hang-out, 29% said they went there within the past year, 26% in the past month, 31% in the past week, and 10% on the day of interview. Similarly, in Addu, 27% had frequented the hangout within the past year, 23% in the past month, 30% in the past week, 6% on the day of the interview.

When asked where they got their needles and syringes, most Male' IDUs or said from pharmacies, but 3% got them from drug dealers and 2% from India. Similarly, in Addu, the majority of IDUs said they got their equipment at pharmacies, but 9% said they got them from drug dealers.

In Male', IDUs said they discarded the syringe and needle after using it once (68%), twice (14%), thrice (10%) or four or more times (9%). A little less than half (48%) say they usually hide the syringe in a place where others can't find and use it.

In Addu, IDUs discarded the syringe and needle after using it once (70%), twice (19%), thrice (6%) or four or more times (3%.) Most (61%) say they usually hide the syringe in a place where others can't find and use it.

Travel and Injecting

Nearly one fifth of the Male' IDUs traveled to a place outside to inject drugs with other IDUs. Among the places they visited were Addu, Baa, India, Laamu, Thinadhoo, some resorts, Bangladesh and Himafushi. When traveling, 30% said they used the same needles/syringes which the local IDUs used.
Among the Addu IDUs, only 6% traveled to places outside Addu to inject drugs with other IDUs. Among the places they visited were Male', Thinadhoo, Velidhoo, Dhaandhoo, and Rasdhoo. When they traveled 26% said they used the same needles and syringes which the local IDUs used.

Injecting Drug Use in Prison

Although this subset of population was not included in the BBS (see limitation of the study), the BBS questionnaire probed the IDU respondents' history of imprisonment as well as their drug taking experiences, including injecting drug use, during their imprisonment.

The majority (86%) of the IDU respondents in Male' reported they had been jailed for various reasons. Most (64%) of these IDUs said they continued to use drugs while behind bars, and 32% of them said they injected inside the prison. Similarly, 56% of IDU respondents in Addu said they had been imprisoned. Most (66%) said they still used drugs while they were in prison, and 14% injected while in prison.

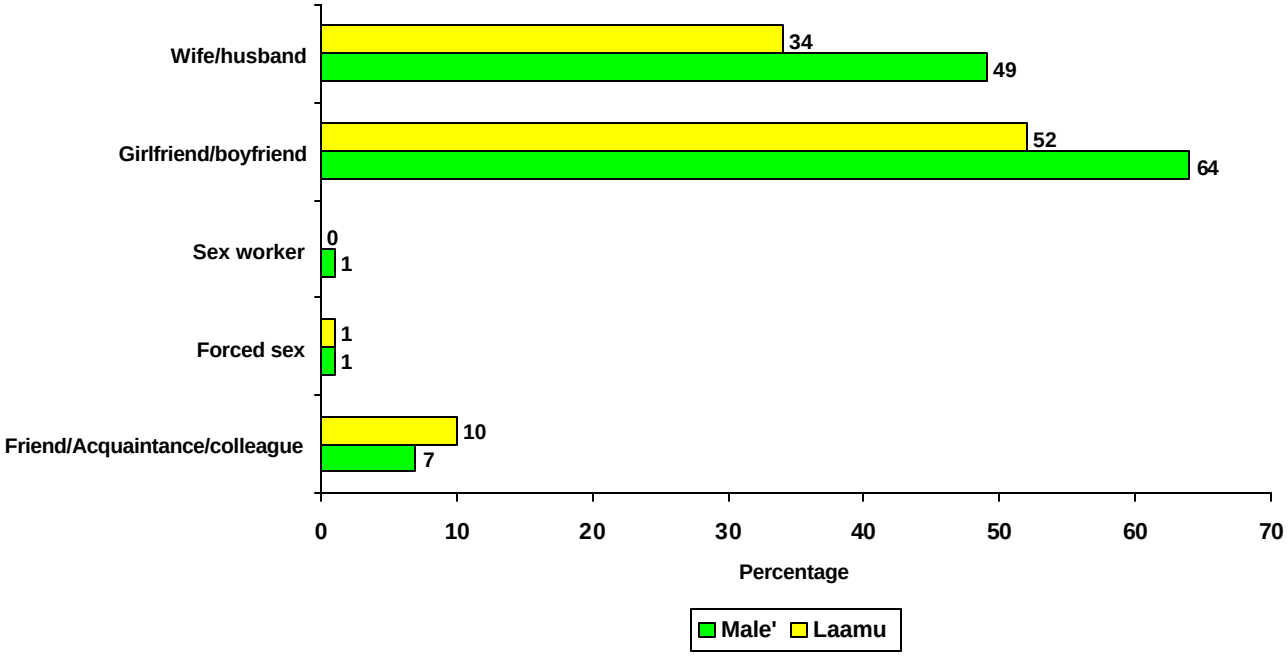
Injecting Drug Use in Rehabilitation Centers

The BBS also asked IDUs about their history of confinement in a drug rehabilitation center and any history of drug taking and injecting drugs inside the centers. More than half of the IDUs in both sites had been admitted to a drug rehabilitation center. In Male', 18% of the IDU respondents said they used drugs while being confined in the rehabilitation center, and 30% said they injected while confined. In Addu, 28% still used drugs during their confinement but no one claimed to have injected inside the rehabilitation center.

Youth

The BBS found that that 34% and 50% percent of youth in Male' and Laamu (Gan), respectively, said they had had sex. Their median age of sexual debut was 20 years old. In both sites, most first sexual encounters were with girlfriend/boyfriend, followed by wife/husband (Figure 12). In both sites, 1% had experienced forced sex (abuse) as their sexual debut.

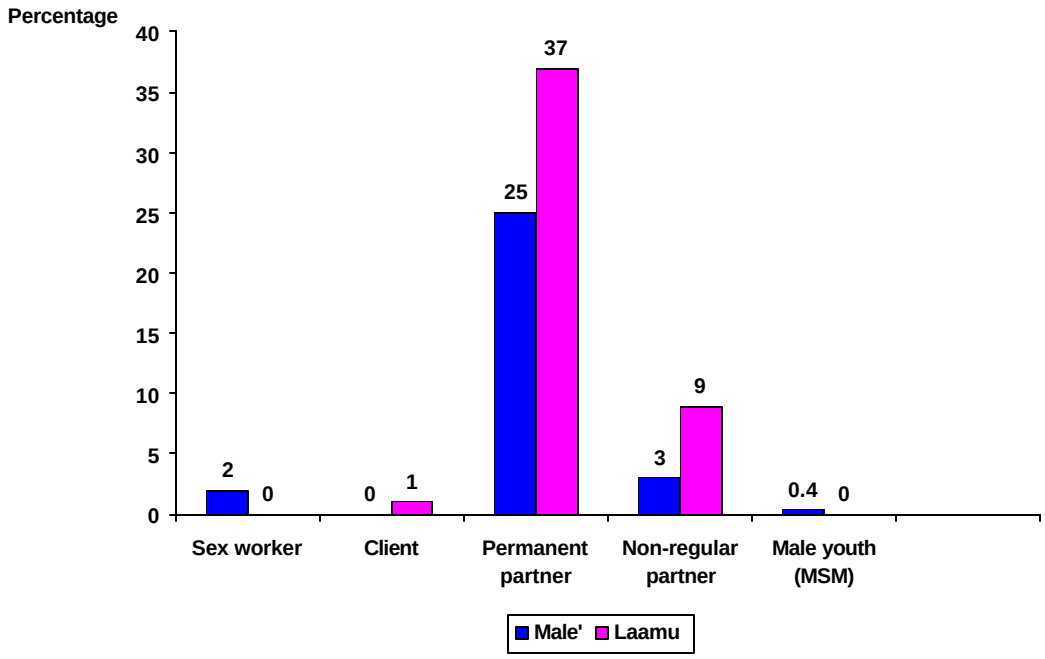
Figure 12. Sex Partners of Youth in Male' & Laamu During Sexual Debut
BBS, Maldives, 2008



In Male', 17% and in Laamu 34% said they had engaged in pre-marital sex. Condom use during pre-marital sex was below 50% in both sites. In Laamu, 8% of the youth interviewed during the BBS said they had had group sex, while in Male' only 1% claimed to have engaged in group sex.

The BBS found that youth had a median of 5 sex partners during the past year. Most report permanent partners, while some report non-regular partners. Some youth had sex with sex workers (in Male' 9 males and 1 female aged 18-24 years old reported paying for sex) and some sold sex (in Laamu 1 male and 1 female aged 18-24 years old reported selling sex). Only one male youth reported having consensual anal sex with another male (Male' 18-24 years old).

Figure 13: Sex Partners of Youth in Male' and Laamu
BBS, Maldives, 2008



In addition to sexual risk behavior, the BBS found some youths who inject drugs or have drug-injecting sexual partners. In Male' one male youth (18-24) reported injecting drugs. In Male', two female youth (15-17 and 18-24) reported sexual partners who injected drugs, while in Laamu, two male and one female youth (18-24) and one female of 15-17 said they had sexual partners who inject drugs.

Population Estimates

In order to look at the potential for more widespread HIV transmission to occur in the Maldives, this section will look at epidemic dynamics among the groups studied.

While HIV still remains very low in all populations, a case of HIV among the resort workers has been detected (0.2%).

Population sizes were estimated based on the mapping conducted in May 2008 and/or on official figures, as follows: .

FSWs: 193 (Male') and 68 (Addu).[18]
MSM: 167 (Male') and 59 (Addu)[19]
IDUs: 242 (Male') and 133 (Addu)[20]
Returning Sea Farers: 600 (estimated by the Ministry of Transport)
Resort Workers (local and expatriate): 16,708
Migrant Construction Workers in Male': 7,524
Youth: 31,191 (Male') and 140 (Gan, Laamu)

[18] The estimate of FSWs in Male and Addu could be low due to a number of factors, including respondents' limited acquaintance with other FSWs. For example, only one expatriate FSW was accessed during the BBS, so this group may not be accurately reflected in these estimates. Note that the mathematical modeling of FSWs described above estimated a total of 980 to 3,198 FSWs in the country.
[19] The estimate of MSM populations may be limited to those MSM who are somewhat open and therefore known to each other. The taboo nature of homosexuality in the Maldives may cause many MSM to hide their sexual preferences. Worldwide standard estimates for homosexuality range from 5 to 20% of the adult male population.
[20] While drug users may prefer other forms of use, such as chasing, any drug user may become an injector under certain circumstances.

Population Interactions

These populations are not isolated from each other, nor are they isolated from other members of the population. If HIV does enter the population in any significant way, the key factors that will influence its spread include:

- The number of people with high risk sexual and drug-taking behaviors that could bring them into contact with the virus
- The sexual and drug-taking interactions that an infected person has with an uninfected person
- The potential that people who have HIV will share fluids (though sex or injections) with another person during those interactions
- The risk populations identified in the Maldives are FSWs, MSM, male and female IDUs, male clients of FSWs and youth.

The Figures in the following pages illustrate the population overlaps that occur.

FSW Population Interactions

Figure 14. Population Interaction among FSW in Male' BBS, Maldives, 2008

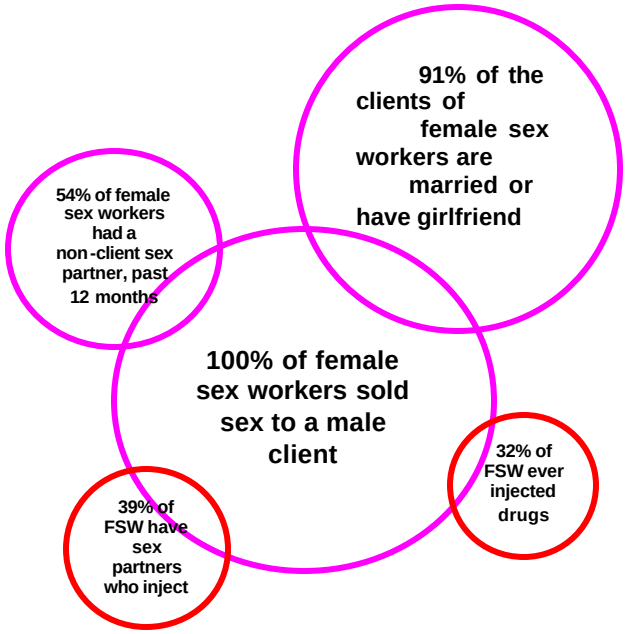
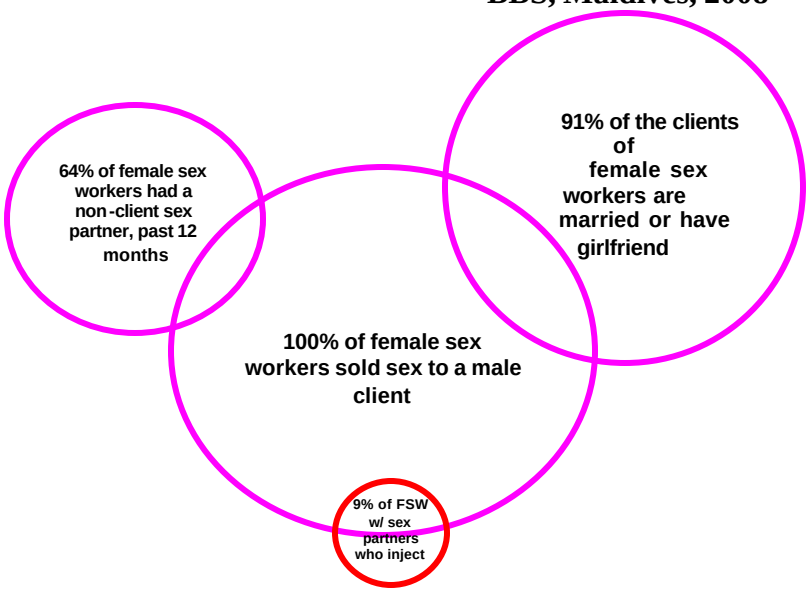


Figure 15. Population Interaction among FSW in Addu BBS, Maldives, 2008



Figures 14 and 15 show that FSWs have sexual relationships not only with their clients but also with their husbands and or boyfriends. Moreover, their clients have their own wives and or girlfriends. This implies that the virus may be transmitted through the FSWs to their partners or from the FSWs' clients to the clients' wives/girlfriends/non-regular partners.

In Male' 32% of FSWs also inject drugs. Furthermore, in both sites, FSWs have sex partners who inject drugs. These findings are important since it has been well documented in other countries in Asia that the overlap of commercial sex and injecting drug use creates opportunities for the accelerated spread of HIV.

OCM Population Interactions

All the OCM respondents have had sex at one point in their lifetime (Figures 16, 17, 18). Currently, the majority have a wife and or a girlfriend. About ten percent say they buy sex from FSWs. This exposure to FSW could open doors for HIV and STI transmission not only to the clients but also to the clients' sexual partners.

Furthermore, 7% percent of the OCM report "one-night stand" or "comfort sex" with non-regular partners. Resort workers and construction workers also report male-to-male sexual relationships. These risky sexual partnerships also open the pathway to broader exchange of STI and HIV pathogens beyond the traditional core transmitter group. Moreover, resort workers and construction workers have also partners who inject prohibited drugs.

Figure 16. Population Interaction among Seafarers
BBS, Maldives, 2008

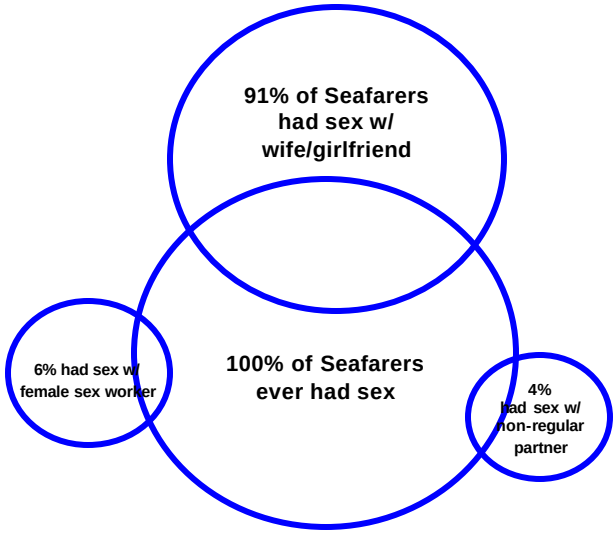
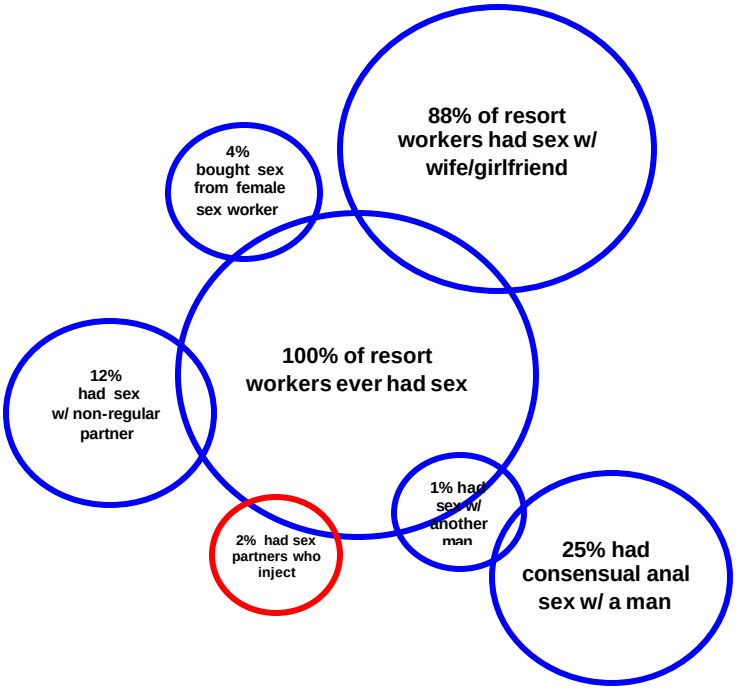
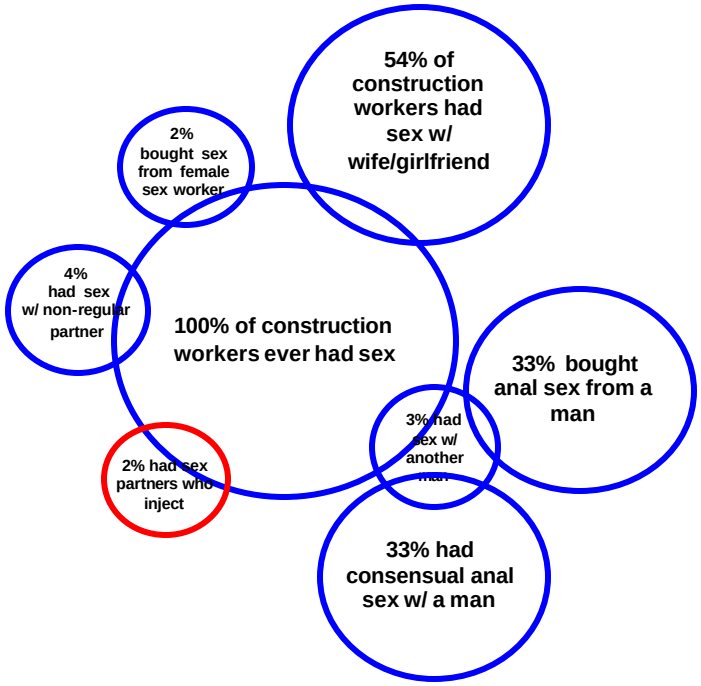


Figure 17. Population Interaction among Resort Workers BBS, Maldives, 2008



*Resort Workers= 16,708

Figure 18. Population Interaction among Migrant Construction Workers BBS, Maldives, 2008

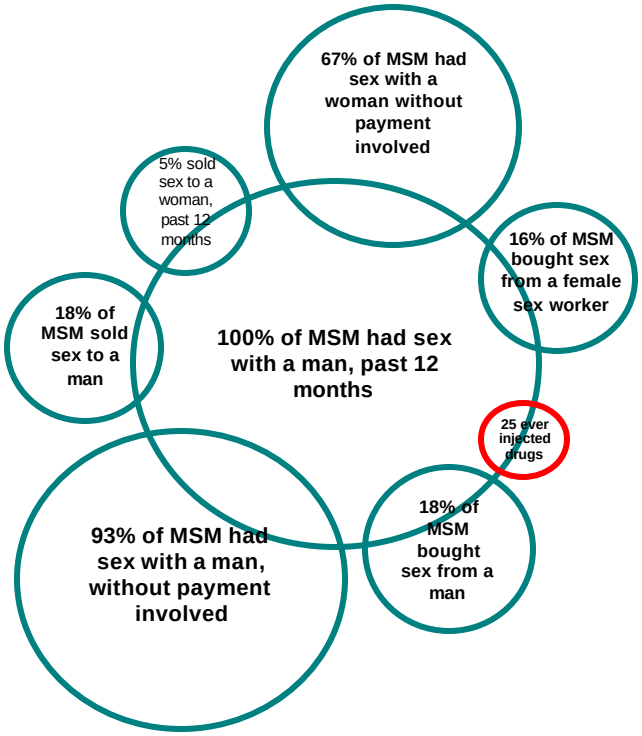


MSM Population Interactions

Figures 19 and 20 show that MSM have sex with women, either a wife or a girlfriend, buying sex from a FSW or selling sex to a female client. Moreover, MSM respondents also report that they inject drugs. In Male', a fifth of the MSM have sexual partners who are also injecting prohibited drugs.

Figure 19. Population Interaction among MSM in Male' BBS, Maldives, 2008

Figure 20. Population Interaction among MSM in Addu BBS, Maldives, 2008



IDU Population Interactions

IDUs in both Male' and Addu not engaged only in risky injecting practices (sharing unsterile needles/syringes with other IDUs) but also in risky sexual relationships (buying sex from sex worker, selling sex to a man and or a woman, engaging in one-night stand or comfort sex and male-to-male sex). Figures 21 and 22 also show that most of the IDUs are married and 1-2% of their wives/husbands are also injecting drugs.

Figure 21. Population Interaction among IDU in Male' BBS, Maldives, 2008

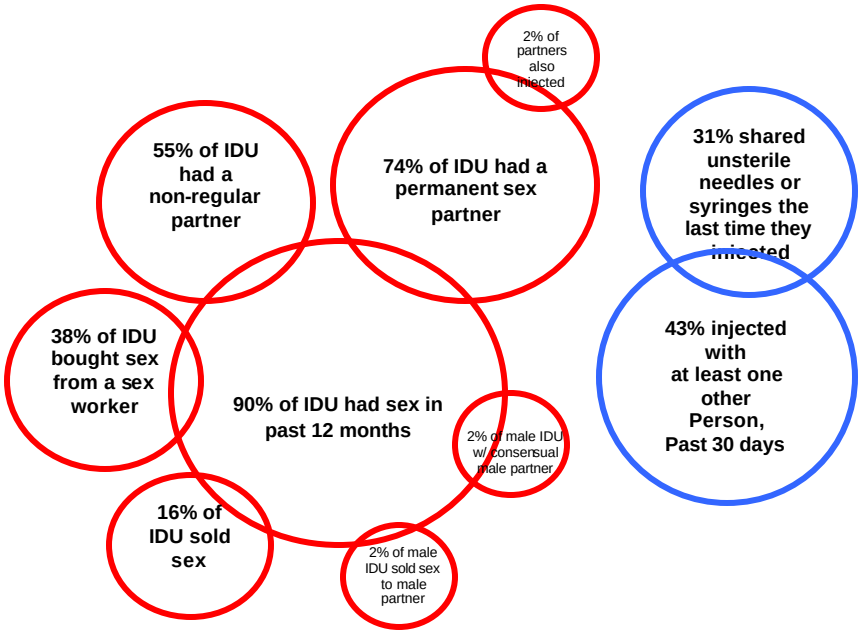
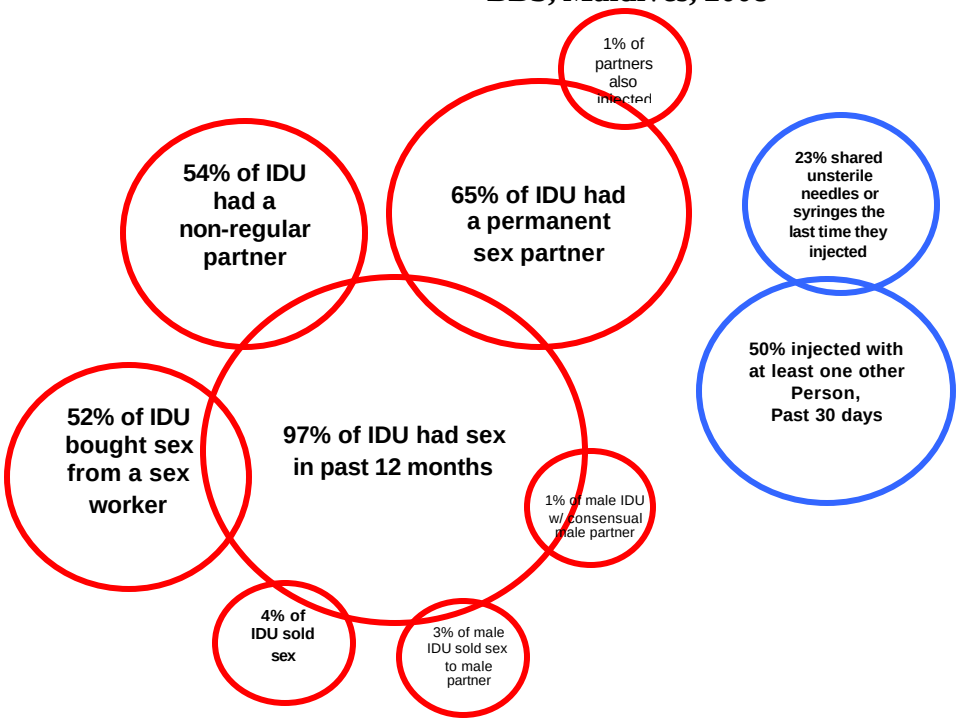


Figure 22. Population Interaction among IDU in Addu BBS, Maldives, 2008



Youth Population Interactions

The BBS found that 50% of youth in Laamu and 32% in Male say they have had sex. In both sites, youth have permanent partners and or non-regular partners. Some Male' youth buy sex from a sex worker while in Laamu, two of the 18-24 year old youth report they are selling sex. One male youth in Male' reports MSM sex without payment. As mentioned earlier, these different partnerships open the pathway to broader exchange of STI and HIV pathogens beyond the traditional core transmitter groups.

Figure 23. Population Interaction among Youth in Male' BBS,Maldives,2008

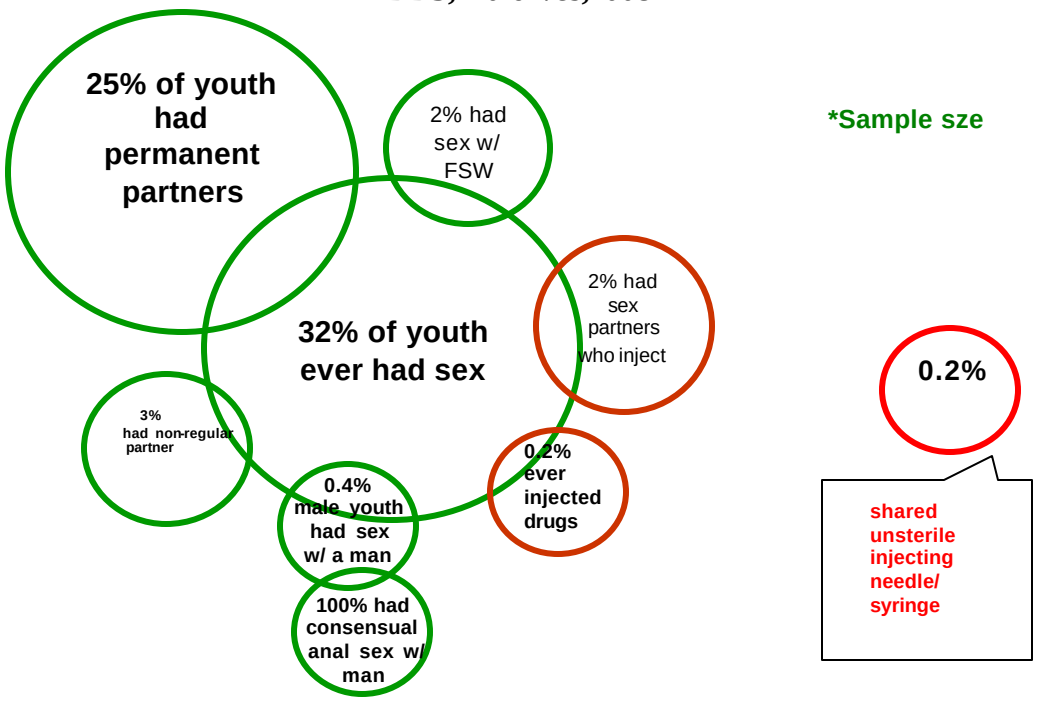


Figure 23 shows that 0.2% of the youth in Male' are injecting drugs and are sharing their unsterile needle/syringe with co-injectors. HIV transmission is most efficient through this channel and the sexual partner of an HIV infected injecting drug user also becomes vulnerable.

Figure 24. Population Interaction among Youth in Laamu
BBS, Maldives, 2008

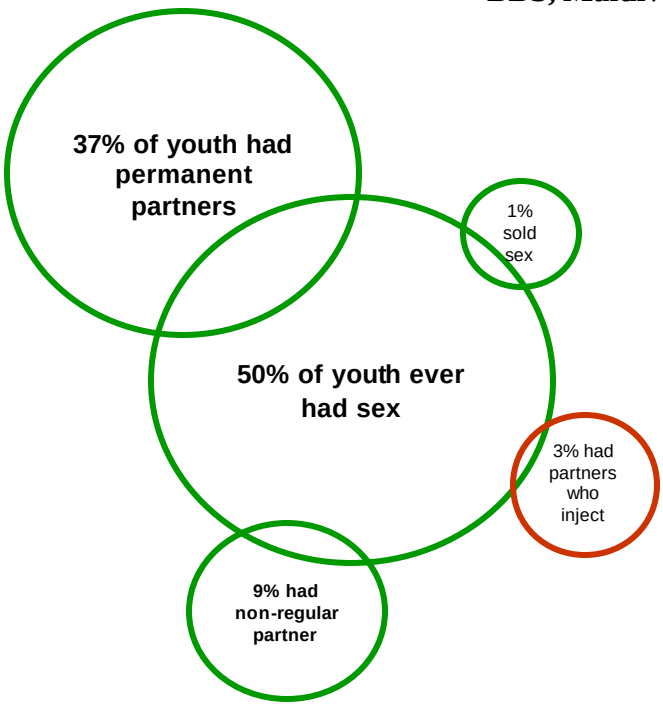


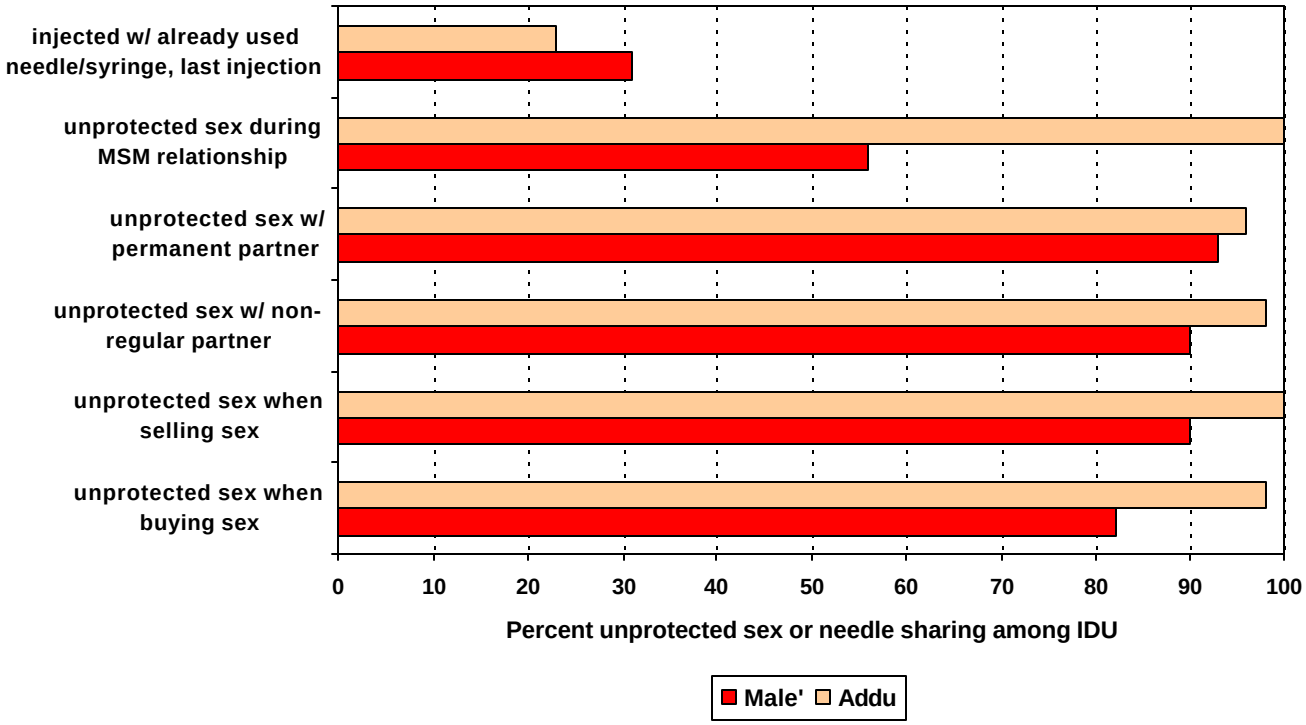
Figure 24 shows that sexual partnership with an injector increases vulnerability to HIV and STIs. The spread of the virus is accelerated when coupled with commercial sex (1% say they have sold sex), or sexual relations with a non-regular partner. Once the virus enters through one or more of these three paths, the permanent partner (37% report such permanent partners), also becomes vulnerable.

Risk of HIV Transmission Through Fluid Exchange

Even if a person falls into a 'high risk' category, such as IDU or FSW, as long as all drug injections are done with a new or properly sterilized needle, and condoms (and preferably lubricant) are used during every sex act, then the probability of HIV transmission occurring is very greatly reduced. On the other hand, if unsafe sex or injecting predominate (for example sex without condoms or injecting with shared equipment), the probability of HIV transmission is greatly increased. It is important, therefore, to look at the proportion of high risk groups that might be exposed to HIV through fluid exchange via drug use and sex.

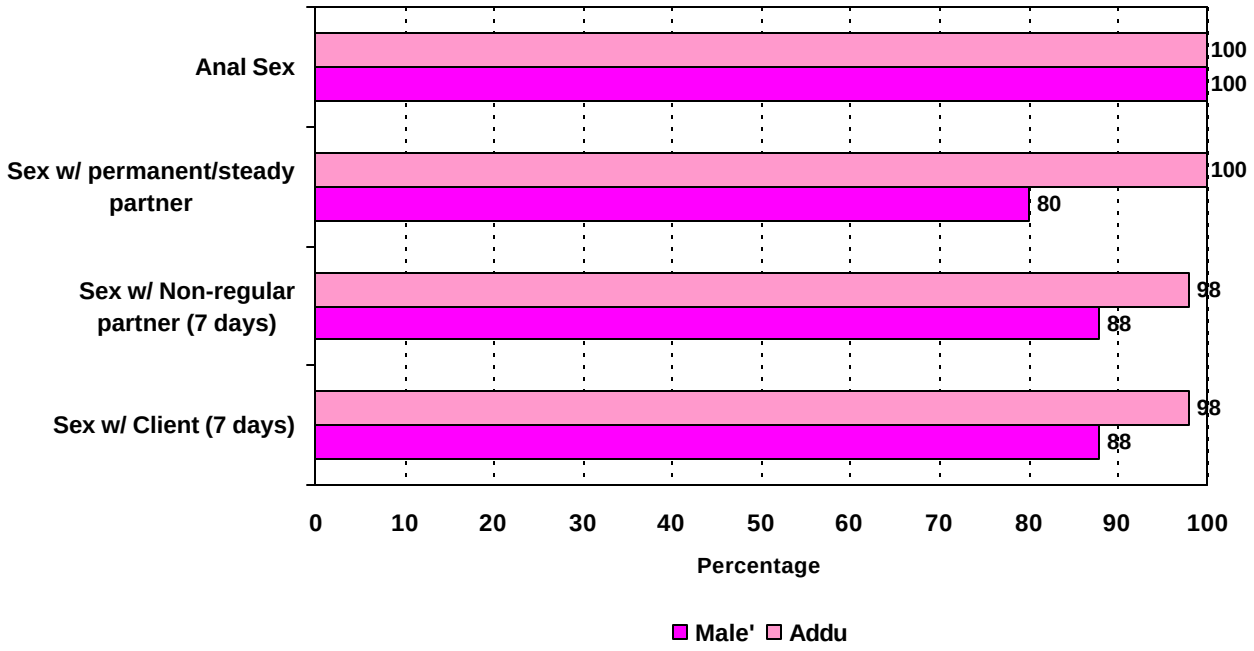
In Male' and Addu, 31% and 23% of the IDUs, respectively, reported that they used an already used needle or syringe (which was not cleaned between users), the *last time* they injected. In addition, 59% of them reported having unprotected sex in the past 12 months. These behaviors place IDUs, their injecting partners and their sexual partners at risk. (Figure 25).

Figure 25. Unprotected Sex and Needle Sharing among IDU in Male' and Addu BBS, Maldives, 2008



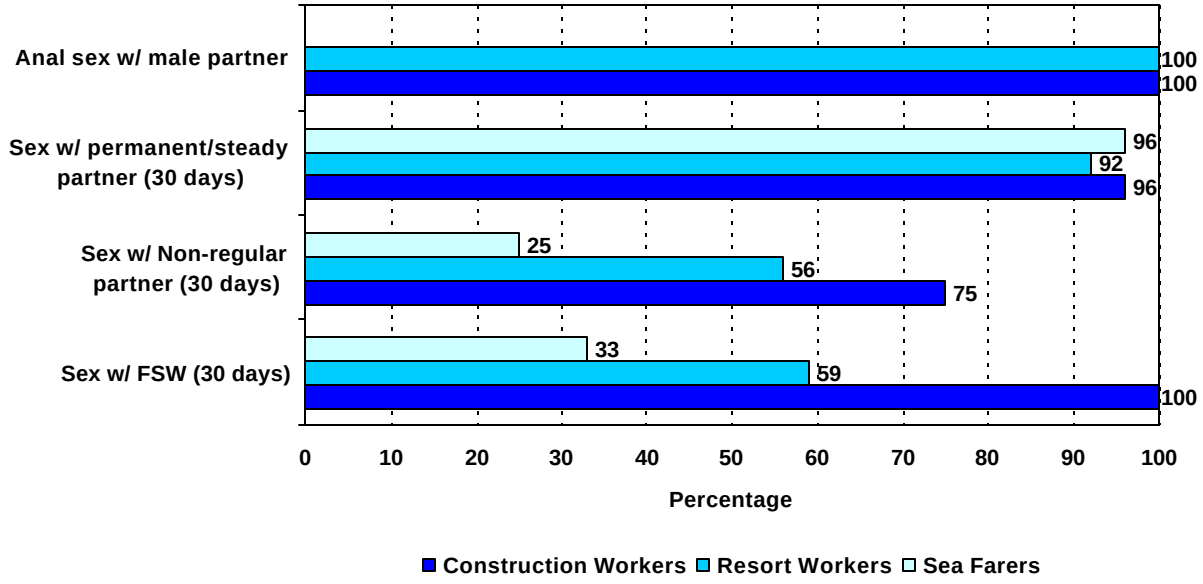
Similarly, Figure 26 shows that majority of the FSWs in the two sentinel sites reported unprotected sex in the past seven days. The diagram shows what percent of these sexual contacts were unprotected. Note that among those practicing anal sex (20% in Male', 10% in Addu), no one is consistently using condom.

Figure 26. Unprotected sex among FSW in Male and Addu BBS, 2008, Maldives



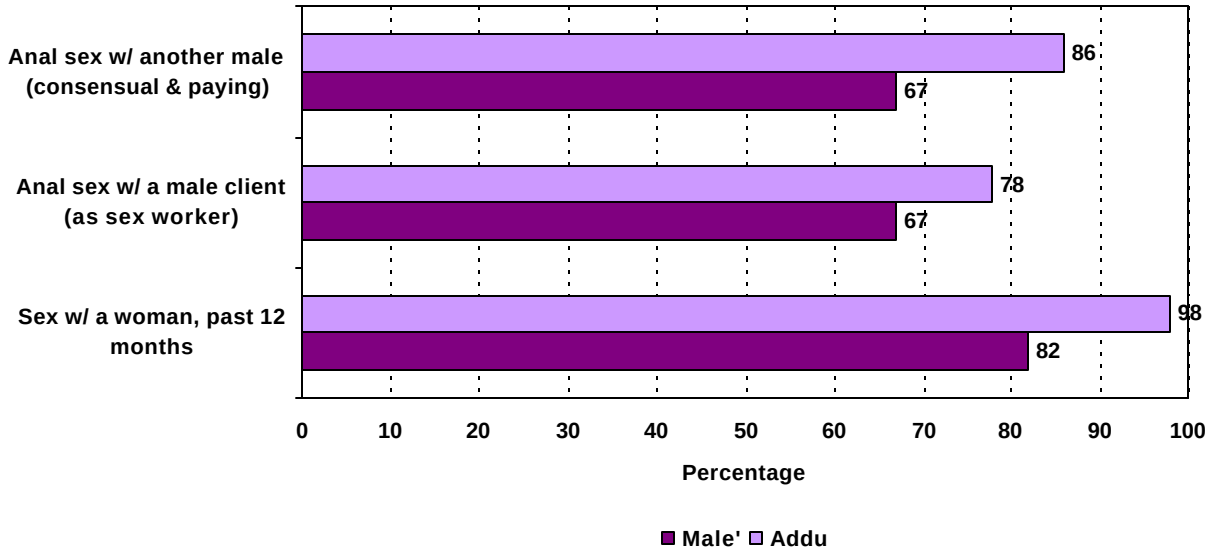
Meanwhile, more than 90% of the OCM (Seafarers, resort workers and construction workers) do not consistently use condoms with their wives and/or girlfriends. Likewise, condoms are rarely used with FSWs and non-regular partners (one-night stands, comfort sex). Even during anal sex, condoms are not used (Figure 27).

Figure 27. Unprotected Sex among Seafarers, Resort Workers and Construction Workers BBS, Maldives, 2008



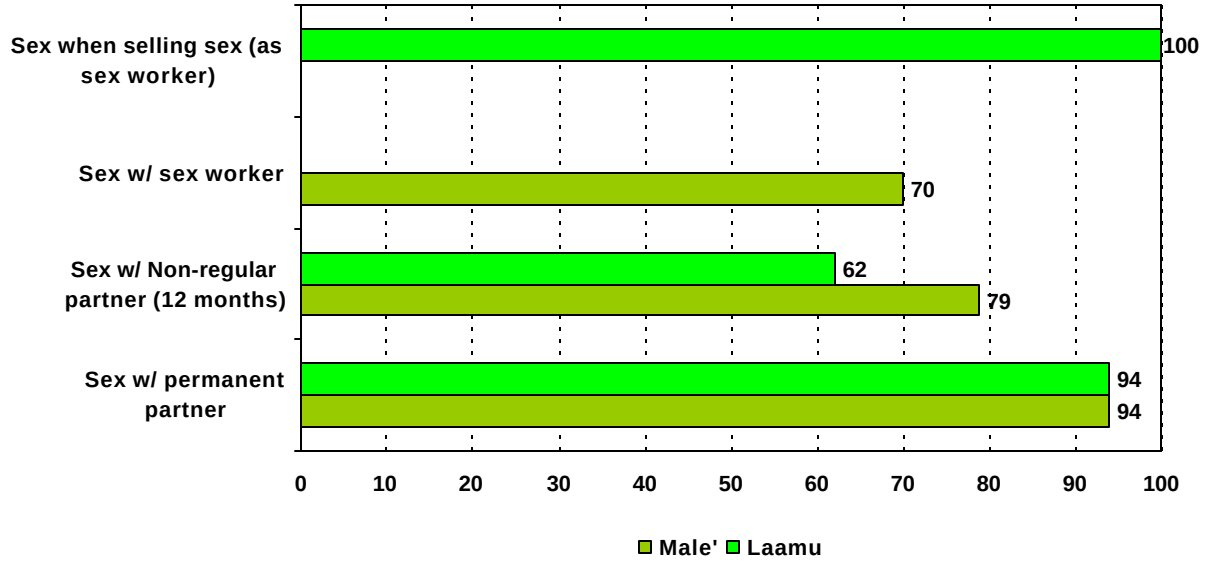
More than half of MSM in both Male' and Addu reported anal intercourse with a man in the past six months that was not protected by a condom. In addition, almost all MSM respondents in Addu had unprotected sex with their female partners (Figure 28).

Figure 28. Unprotected Sex among MSM in Male' and Addu BBS, Maldives, 2008



Finally, among sexually active youth in Male' and Laamu, more than 90% engage in unprotected sex. They do not use condoms with non-regular partners, during a one-night stands or comfort sex, when buying sex or selling sex. (Figure 29).

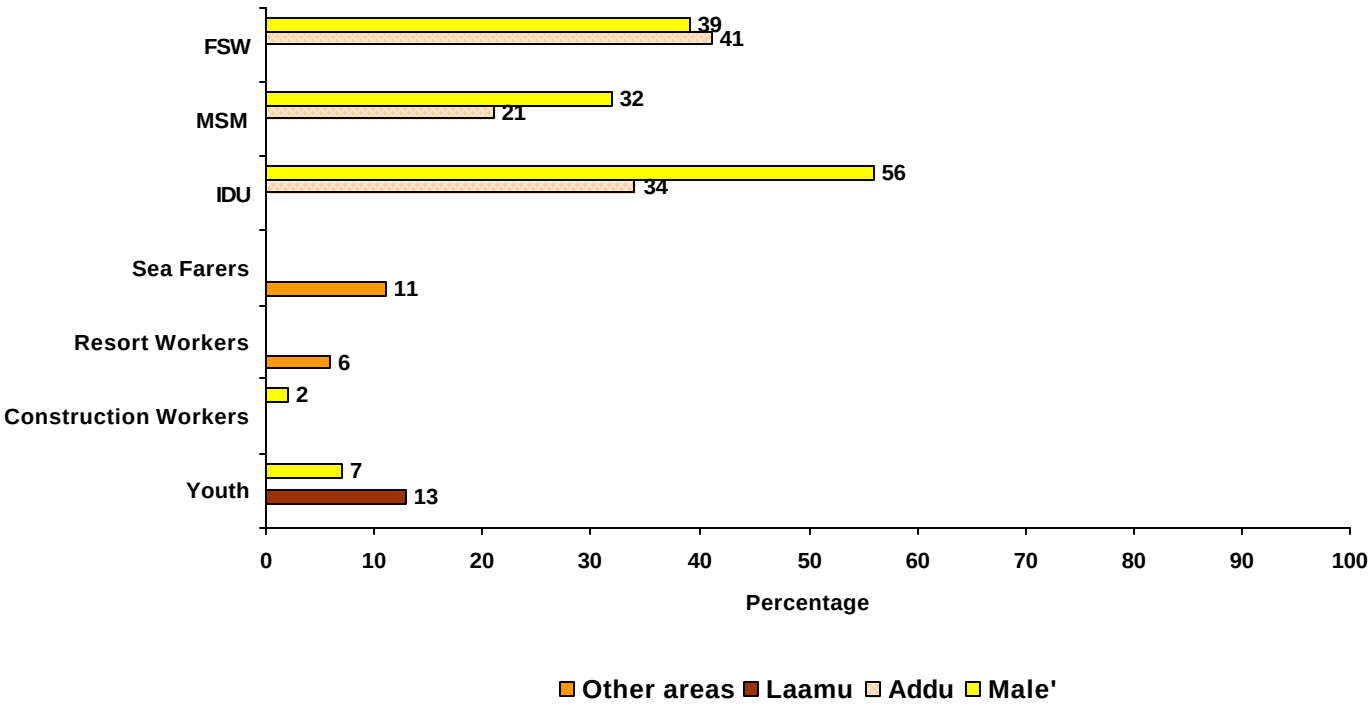
Figure 29. Unprotected Sex among Youth in Male' and Laamu (Gan) BBS, Maldives, 2008



Findings on Risk Perception.

It is noteworthy that there is a high prevalence of unprotected sex among FSWs, MSM, IDUs, OCM and youth as well as needles and syringe sharing among IDUs in the Maldives. However, these risk behaviors are not consistent with their perception of risk. Except for IDUs in Male', less than fifty percent among respondents felt that they are at risk for HIV infection. Figure 30 shows what percent of the different groups said they felt they could get HIV.

Figure 30. Perceived Risk of HIV among FSW, MSM, IDU, OCM and Youth BBS, Maldives, 2008



But *why* do these populations feel that they are not at risk for HIV? A little less than half of FSWs in Male' and 38% in Addu felt that they were not at risk for HIV because they were convinced their partners were healthy. Almost half of FSWs in Addu claimed that they are not at risk for HIV because they don't often change sex partners. In Male' almost 20% of FSWs reported that they are not at risk for HIV because they do not inject prohibited drugs and do not often change sex partners. Only 10% claimed to be safe from HIV because they used condoms. (Table 13). Meanwhile, the major reason for MSM and IDUs is the perception that their sex partners are healthy.

When men were asked why they don't perceive themselves at risk for HIV, most said that it was because they do not often change sex partners, while 23% of youth in Male' and 6% of youth in Laamu say they believe religion protects them from HIV. One percent of resort workers, and 1-2% of youth in Male' and Laamu believe there is no HIV in the country.

Some respondents gave reasons for low perceived risk that did not reflect their greatest risk of HIV – for example 48% of FSWs in Addu said their risk was low because they "do not often

change sex partners", while none of them claimed to be safe because of always using condoms. Similarly more MSM claimed to be safe because of not often changing sex partners, than claimed they were safe because of always using condoms or never having anal sex.

Table 13. Reasons why Respondents Do not Perceive Themselves at Risk for HIV BBS, Maldives, 2008

Risk Group	Don't often change sex partners	Always use condom	Never used injected narcotics	Convinced partner is healthy	No HIV in the Maldives	No anal sex	None/rarely have sex w/ sex workers	Practicing religion protects one from HIV	Others
FSW in Male'	10%	10%	19%	0	0	0	0	0	0
FSW in Addu	48%	0	8%	38%	15%	8%	5%	0	0
MSM in Male'	13%	19%	23%	44%	4%	6%	6%	0	0
MSM in Addu	4%	2%	4%	87%	7%	0	0	0	0
IDU in Male'	52%	2%	2%	16%	5%	11%	9%	0	0
IDU in Addu	46%	3%	0	44%	17%	20%	5%	0	0
Seafarers	38%	3%	0	3%				6%	44%
Resort Workers	57%	8%	6%	16%	1%	4%	10%	7%	
Construction Workers	65%	0	1%	3%	0	0	1%	4%	22%
Youth in Male'	20%	5%	5%	4%	1%	2%	5%	23%	
Youth in Laamu	12%	2%	0	6%	2%	0	0	6%	

On the other hand, there were respondents who felt that they are at risk for HIV infection. For example, the majority of the IDUs who felt they are at risk of HIV believed that their injecting practices may predispose them to getting the infection (Table 14).

Table 14. Reasons Why Respondents Feel that they are at Risk for HIV BBS, Maldives, 2008

Risk Group	Often change sex partners	Don't always use condom	Use injected narcotics	Others
FSW in Male'	54%	38%	38%	0
FSW in Addu	15%	89%	4%	0
MSM in Male'	32%	68%	68%	18%
MSM in Addu	21%	100%	42%	0
IDU in Male'	46%	52%	91%	0
IDU in Addu	61%	88%	83%	0
Seafarers	27%	0	0	0
Resort Workers	34%	7%	0	34%
Construction Workers	0	50%	50%	0
Youth in Male'	15%	12%	3%	
Youth in Addu	11%	11%	0	

In order to effectively implement behavioral change interventions, programs need to explore and address the factors influencing this perception that multiple partnerships alone pose a far greater HIV risk than not using condoms with those partners.

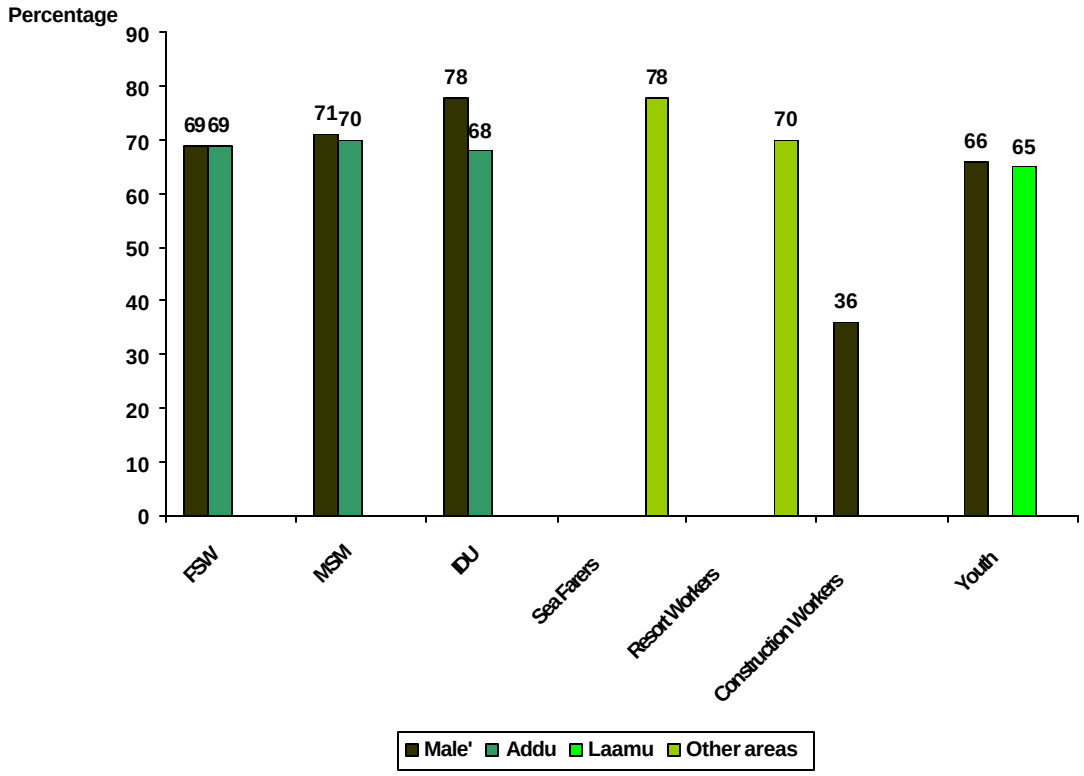
Findings on Knowledge about HIV

Knowledge of ways in which HIV is transmitted is one of the basic indicators for measuring a country's response to an HIV epidemic. In all the risk groups surveyed, except among construction workers, 67 – 80% of respondents correctly identified ways of preventing sexual transmission of HIV (by having one uninfected partner who has no other partner, or by using condom every sex act), who knew that a healthy looking person can have HIV and who rejected major misconceptions of transmission (through mosquito bites or sharing food with someone who is infected). Only 36% of the construction workers surveyed were able to answer correctly, however (Table 15 and Figure 31).

Table 15. Percent of Respondents who Gave Correct Answers
BBS, Maldives, 2008

	HIV transmission decreases by having one uninfected partner w/ no other partner	HIV decreases by using condoms everytime they have sex	A healthy looking person may have HIV	One cannot get HIV from mosquito bites	One cannot get HIV by sharing food w/ someone who is infected
FSW in Male	76	50	82	56	79
FSW in Addu	69	52	90	57	78
MSM in Male'	67	48	93	58	87
MSM in Addu	56	47	71	91	84
IDU in Male'	82	72	93	55	88
IDU in Addu	63	27	95	62	95
Seafarers	94	46	79	74	95
Resort Workers	82	47	85	55	82
Construction Workers	52	16	43	32	38
Youth in Male'	69	34	89	55	84
Youth in Laamu	71	44	88	44	77

Figure 31. Knowledge on Ways of Preventing Sexual Transmission of HIV and Major Misconceptions
BBS, Maldives, 2008



Findings on STIs and Health-seeking Behavior

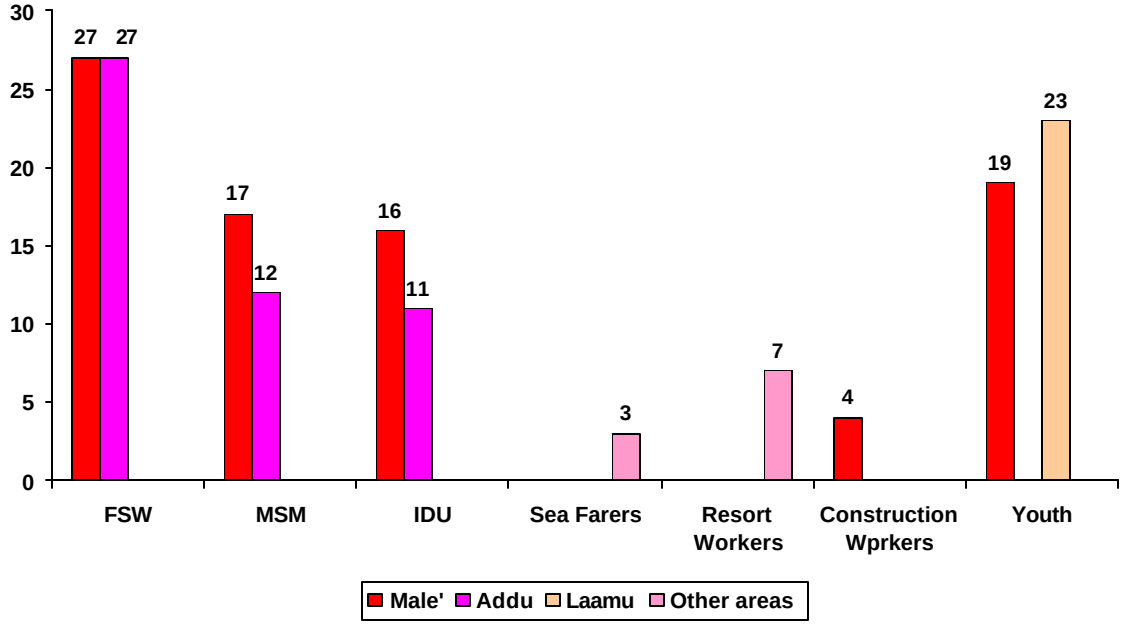
Looking at the low condom use despite the awareness on HIV transmission of the respondents, a gap is seen between knowledge and practice. The non-condom use during risky sexual activities opens the pathway to a broader exchange of STI and HIV pathogens. This is reflected by the self-reported signs and symptoms of STI experienced by the different risk groups.

It is noteworthy that high proportion of FSWs (27%) report these STI signs and symptoms compared to 3 – 7% of the men in the OCM, who represent their clients. Previous figures showed that less than 10% of these FSWs use condoms during commercial sex while a higher proportion (36%) of men use condoms whenever they buy sex.

A significantly high proportion of youth in Laamu (23%) and Male' (19%) reports signs and symptoms of STI. Sexual contact without the use of condoms during commercial sex provides a portal of entry for the STI pathogens. In Laamu, only males (5 of 10) reported consistent condom use with non-regular partners. The male and female youth who are selling sex reportedly never used condoms. In Male', three out of the nine male youth and the only female youth who reportedly buy sex were the only consistent condom users during commercial sex. Only 25% male youth consistently use condoms with their non-regular partners.

Between 10% and 20% of the MSM and IDUs claimed to have experienced signs and symptoms of STI. As shown in figures 25 and 28, their unprotected multiple sexual partnerships open the pathway for the STI pathogens.

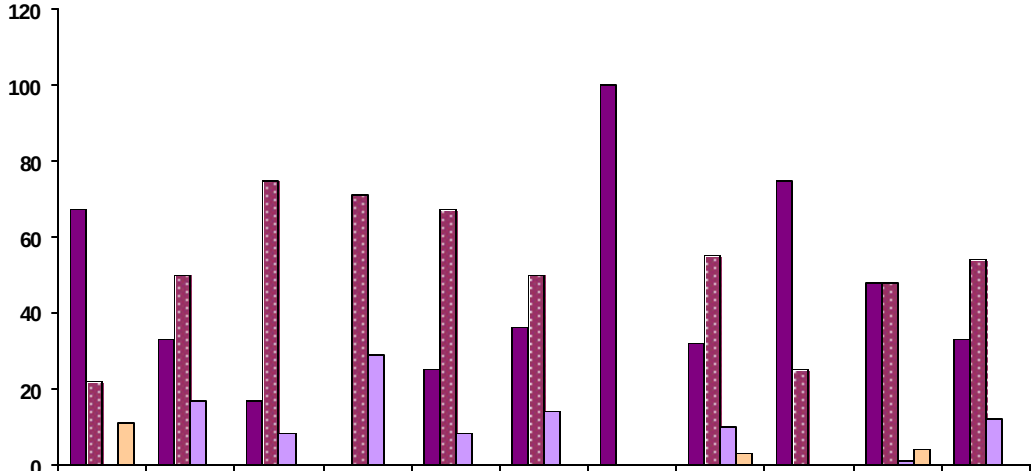
Figure 32. Proportion of FSW, OCM, MSM, IDU and Youth who Experienced STI Signs and Symptoms
BBS, Maldives, 2008



The country has outpatient services for STI in the atolls and at the IGMH, where general males and females can go for treatment. No statistics are available to determine if there have been any members of the FSW population seeking consultations related to STI. This first BBS tackled the important issue of health clinic visit by an FSW. Based on the BBS, 21% and 6% of FSW in Male' and Addu, respectively, have visited a health clinic at least once in the past three months. The services they reported using include: STI/HIV/AIDS information (10%), vaginal smear (6%), syphilis blood test (4%), STI treatment (5%) and condom supply (3%).

This BBS explored the health-seeking behavior of the risk groups whenever signs and symptoms of STI are experienced. It was found that although a significant proportion of the respondents sought treatment from a health practitioner, most self-medicated or just did nothing when they experienced any of the signs and symptoms of STI (Figure 33).

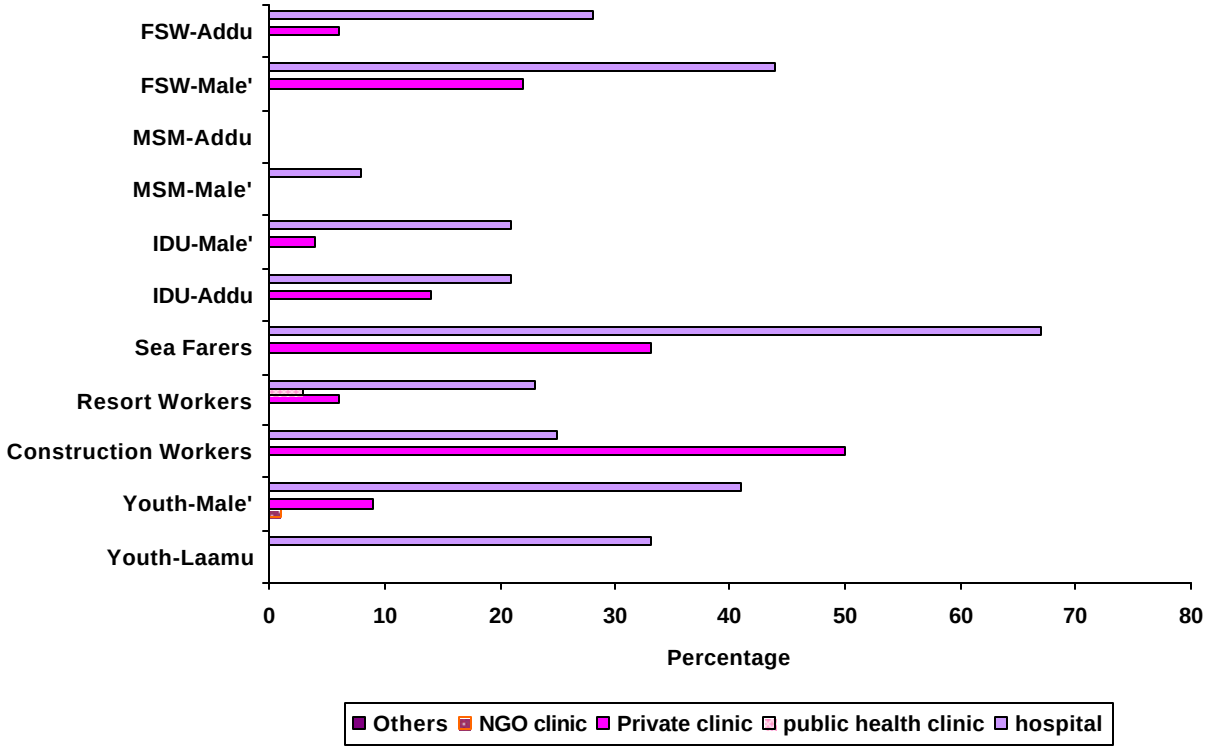
Figure 33. Health-seeking Behavior of FSW, MSM, IDU, OCM and Youth BBS, Maldives, 2008



	FSW-Male'	FSW-Addu	MSM-Male'	MSM-Addu	IDU-Male'	IDU-Addu	Sea Farers	Resort Workers	Construction Workers	Youth-Male'	Youth-Laamu
Went to health practitioner	67	33	17	0	25	36	100	32	75	48	33
Didn't do anything	22	50	75	71	67	50	0	55	25	48	54
Self-medicate	0	17	8	29	8	14	0	10	0	1	12
Other modalities	11	0	0	0	0	0	0	3	0	4	0

Those who consulted a health practitioner most commonly sought out hospital and private clinics. (Figure 34).

Figure 34. Facilities Consulted When Seeking Treatment for STI
BBS, Maldives, 2008



Findings on Exposure to Prevention Interventions and Sources of Information

UNGASS has developed indicators in order to measure the extent of HIV prevention programs in a country. In this BBS, respondents were asked
1) If they were aware of a place to go if they wished to have an HIV test and
2) if condoms were given in the last 12 months.

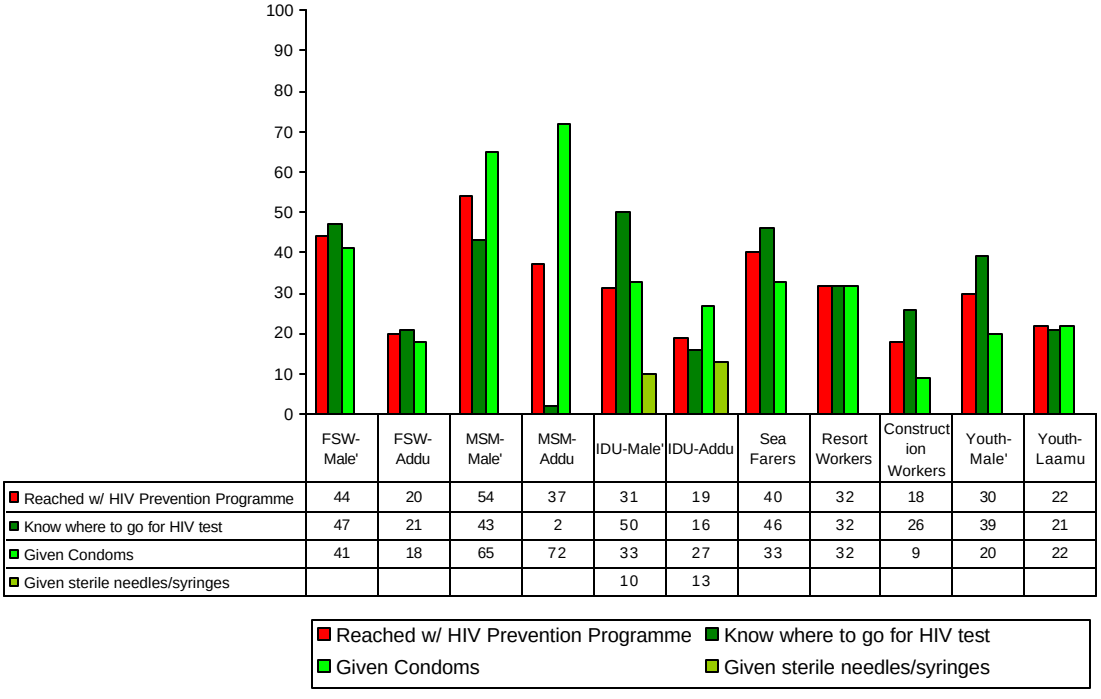
IDUs were also asked if they were given sterile needles and syringes in the last 12 months.

Using the formula prescribed by UNGASS, the proportion of respondents reached with HIV prevention programme was then determined:

$$\frac{\text{1. number of respondents who know of a place to go for HIV test}}{\text{Total number of respondents}}$$
2. number of respondents given condoms in the last 12 months
3. number of respondents given sterile needles/syringes in the last 12 months (IDU)

According to this calculation, fewer than 40% of respondents in all groups were reached with HIV prevention programs, except for except for seafarers, and MSM and FSWs in Male'. (Figure 35). Specifically, less than 50% of the respondents, except IDUs in Addu, knew where to get an HIV test.

Figure 35. Percent of Respondents Reached with HIV Prevention Programme, BBS, Maldives 2008



	FSW-Male'	FSW-Addu	MSM-Male'	MSM-Addu	IDU-Male'	IDU-Addu	Sea Farers	Resort Workers	Construction Workers	Youth-Male'	Youth-Laamu
Reached w/ HIV Prevention Programme	44	20	54	37	31	19	40	32	18	30	22
Know where to go for HIV test	47	21	43	2	50	16	46	32	26	39	21
Given Condoms	41	18	65	72	33	27	33	32	9	20	22
Given sterile needles/syringes					10	13					

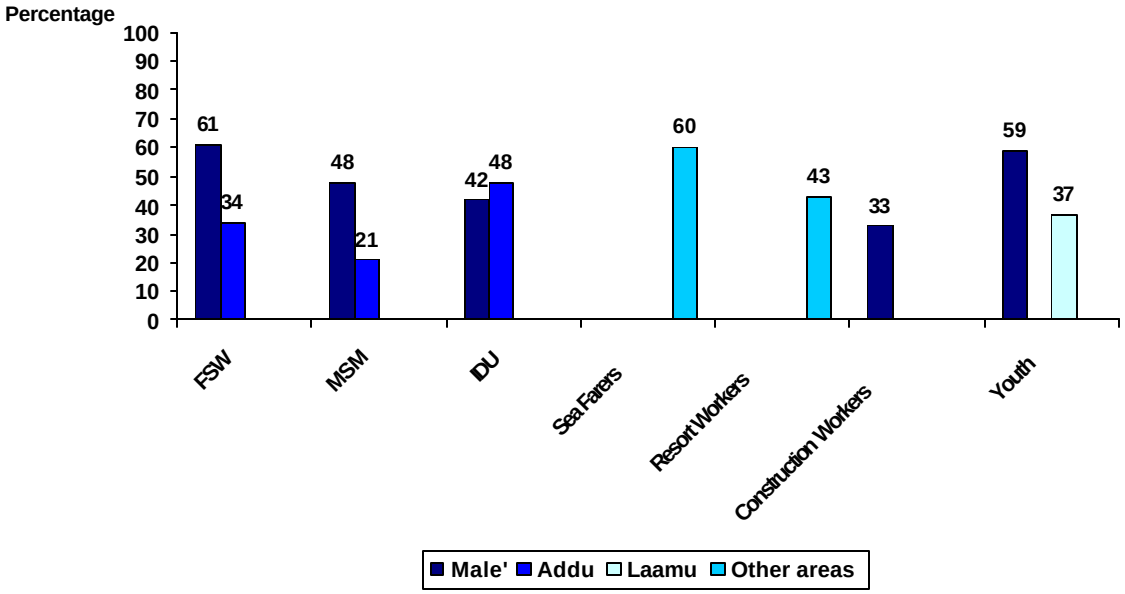
Linking again the knowledge and practice among FSWs, although approximately 50% of FSW in the two sites knew that HIV transmission is decreased by condom use every time they have sex, and despite their awareness of its availability (90% in Male', 56% in Addu), only one FSW in Male' was able to produce a condom when asked by the enumerator.

Many HIV prevention programs around the world have discovered that knowledge alone is not enough to produce positive behavior in preventing HIV transmission. Many countries are trying to expand their HIV programmes by bringing a full package of Interventions to the target population considered high risk. These intervention packages include: condom distribution, STI screening and treatment and outreach education.

Sources of HIV and STI Information

As seen above, a high proportion of the BBS respondents were aware of how HIV transmission can be prevented. This first BBS looked at where and how these groups got their information. More than half of the Seafarers, FSWs and youth in Male' received information on HIV/AIDS/STI during the last 12 months. Between 33% and 48% of other groups received information, with the exception of MSM in Addu, only 21% of whom got any information. (Figure 36).

Figure 36. Proportion of Respondents Receiving Information on HIV/AIDS/STI in the Past 12 Months, BBS, Maldives, 2008



In almost all the groups surveyed, television, newspaper/magazine and radio topped the list of information sources. On the other hand, pamphlets/brochures were major sources of information for IDUs in Male' and youth in Laamu. Among Male' youth, internet and school were most important (Tables 16, 17, 18).

Table 16. Number of FSW, MSM, IDU who Access HIV/AIDS/STI Information through Varied Sources*
BBS, Maldives, 2008

Sources of Information	FSW in Male'	FSW in Addu	MSM in Male'	MSM in Addu	IDU in Male'	IDU in Addu
Television	10	16	24	10	36	48
Radio	4	10	19	0	19	25
Newspaper/magazine	5	3	16	1	11	27
Pamphlets/brochures	3	0	9	0	13	6
Posters	2	1	7	0	7	14
Clinics	1	0	3	1	2	0
Hospitals	3	4	2	0	5	3
NGO	2	0	2	1	13	3
Workplace	1	0	0	0	2	0
School	2	0	0	0	3	1
Internet	1	2	1	0	7	12
Friends	3	2	0	1	5	3
Families	0	0	0	0	2	0
Other sources	2	2	1	0	8	4

*multiple responses allowed

Table 17. Number of Seafarers, Resort Workers, Construction Workers who Access HIV/AIDS/STI Information through Varied Sources*
BBS, Maldives, 2008

Sources of Information	Seafarers (n=59)	Resort Workers (n=199)	Construction Workers (n=33)
Television	41	134	21
Radio	28	43	7
Newspaper/magazine	11	39	5
Pamphlets/brochures	6	34	0
Posters	0	11	2
Clinics	0	3	0
Hospitals	6	8	0
NGO	0	8	0
Workplace	5	16	0
School	0	6	1
Internet	1	23	0
Friends	9	20	7
Families	0	6	1
Other sources	3	12	0

*multiple responses

Table 18. Number of Youth in Male' and Laamu who Access HIV/AIDS/STI Information through Varied Sources* BBS, Maldives, 2008

Sources of Information	Male' (n=271)	Laamu (n=53)
Television	148	24
Radio	44	14
Newspaper/magazine	34	6
Pamphlets/brochures	30	10
Posters	11	1
Clinics	8	0
Hospitals	23	6
NGO	2	2
Workplace	6	0
School	63	8
Internet	42	2
Friends	21	10
Families	6	1
Other sources	17	2

*multiple responses

HIV and STI Information in Prisons and Drug Rehabilitation Centers

Although no program on HIV/AIDS/STI is established in prisons and rehabilitation center, IDU respondents were asked whether during their imprisonment and/or confinement, they were able to get information on this sensitive subject matter. Among IDU respondents who were imprisoned, one fifth from Male and 14% from Addu said they received information on HIV/AIDS/STI while serving their prison term. Among IDU respondents confined in a drug rehabilitation center, 81% from Male' and 68% from Addu reported receiving such information.

HIV Testing

In all the groups surveyed, except for Seafarers, less than 40% had an HIV test during the last 12 months (Figure 37). FSWs and MSM in Addu had the lowest rate of testing (4% and 2%, respectively). Figure 38 shows the various reasons why HIV tests were accessed. Most respondents reported they had the test voluntarily. Others had tests for medical reasons and for employment.

Figure 37. Ever Had an HIV Test
BBS, Maldives, 2008

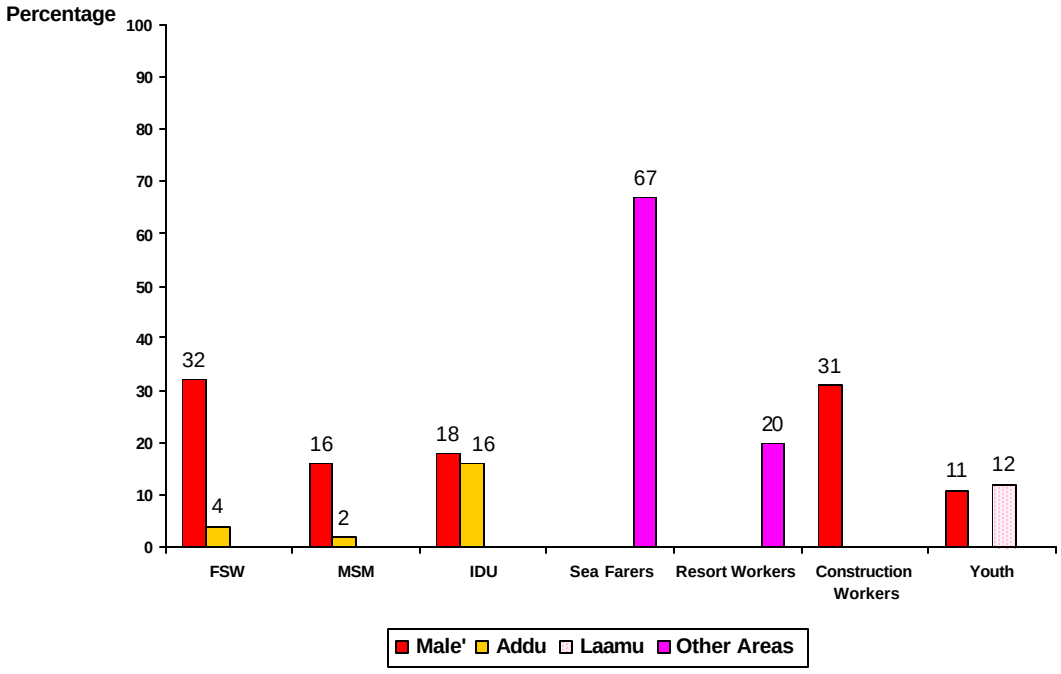
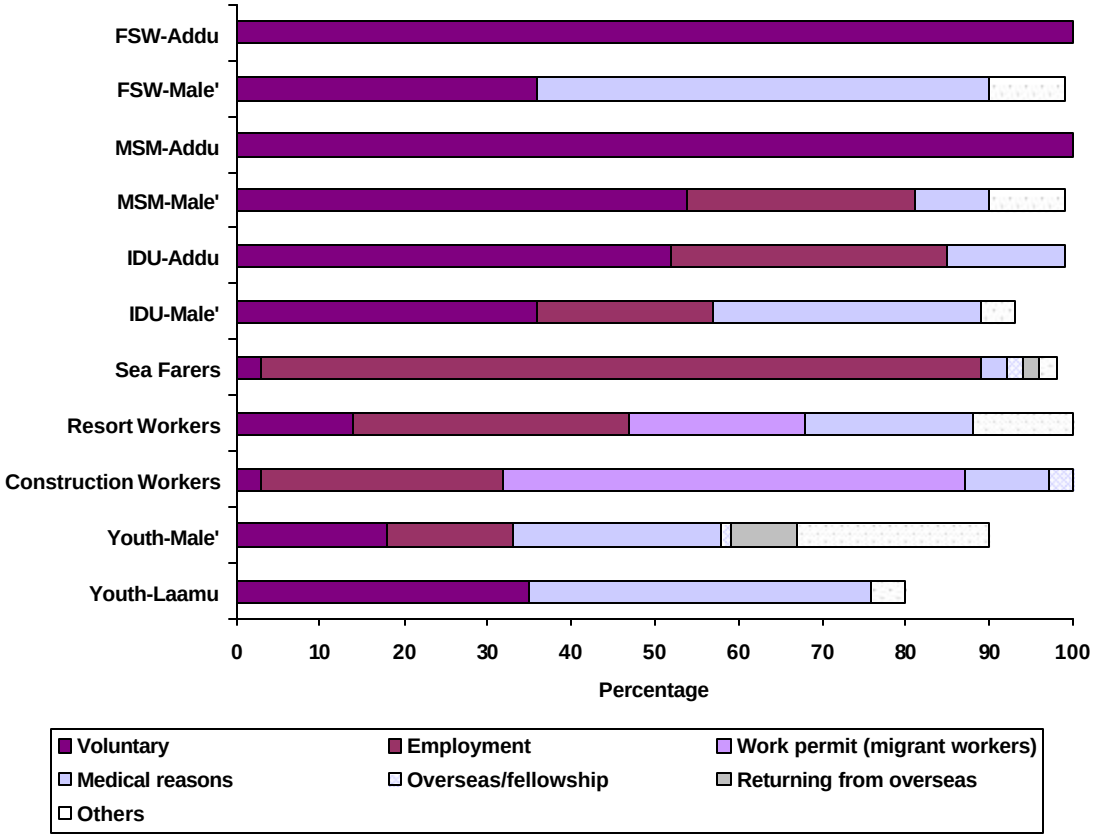


Figure 38. Reasons why Respondents Had an HIV Test in the last 12 Months BBS, Maldives, 2008



These findings suggest that HIV programs in the country still need to be popularized. Likewise, information dissemination should be evaluated and tailored to the target population, in order to achieve its maximum impact.

Findings on Preferred Information Sources

This first BBS asked respondents about the sources of information that they want to use to learn more about HIV/AIDS and STI. Across all groups surveyed and age groups, television is the first choice for a medium for HIV/AIDS/STI information. Newspaper, magazines, brochures/pamphlets and radio are also popular. NGOs (in particular the NGO Journey) was named by IDUs in Male' as a preferred channel for information on HIV and STI. On the other hand, youth and resort workers (both expatriate and Maldivian) prefer the internet, television and pamphlets/brochures. Schools are also one of the top choices of youth l8 and over, in Male'.

Table 19. FSWs' Preferred Sources for HIV/AIDS/STI Information 2008, BBS, Maldives

Sites	Male'			Addu		
Sources of Information	**17 years old and below**	**18-24 years old**	**25 years old and above**	**17 years old and below**	**18-24 years old**	**25 years old and above**
Television						
Radio		3	3	3	7	32
Newspaper/magazine		1	1	4	7	30
Pamphlets/brochures	1	5	1	2	5	22
Posters			2		3	11
Clinics	1	2	2	2	1	2
Hospitals		4	3		4	7
NGO		1	3	2		0
Workplace			1			
School			1		1	1
Internet		2	2	1		
Friends	3	4	3			2
Families			1		1	
Other sources		2 (awareness program)	1			

*multiple responses

Table 20 . MSM's Preferred Sources for HIV/AIDS/STI Information*, BBS. Maldives, 2008

Sites	Male'			Addu		
Sources of Information	**17 years old and below**	**18-24 years old**	**25 years old and above**	**17 years old and below**	**18-24 years old**	**25 years old and above**
Television		12		1	11	18
Radio	1	8	23		5	3
Newspaper/magazine		11	15	1	5	9
Pamphlets/brochures		5	18		1	1
Posters		3	12		1	3
Clinics		3	10	1	1	1
Hospitals		3	7		3	5
NGO		4	7			
Workplace		3	6			
School		2	4			
Internet		2	1		1	1
Friends		2	2			1
Families		2	1		1	
Other sources		1	3		1 (counseling)	

*multiple responses

Table 21. IDUs' Preferred Sources for HIV/AIDS/STI Information* BBS, Maldives, 2008

Sites	Male'			Addu		
Sources of Information	**17 years old and below**	**18-24 years old**	**25 years old and above**	**17 years old and below**	**18-24 years old**	**25 years old and above**
Television	2	30	65	3	33	59
Radio	2	26	46	2	22	27
Newspaper/magazine	2	27	46	1	19	42
Pamphlets/brochures	2	4	40	1	7	4
Posters	1	4	32		4	18
Clinics	1	1	29		1	3
Hospitals	1	3	31	1	4	20
NGO	2	8 (Journey)	38		2	4
Workplace	1	2	26		2	3
School	1	1	27		1	
Internet	1	3	31	2	9	27
Friends	1	3	28		5	7
Families	1	0	27		2	1
Other sources			3			

*multiple responses

Table 22. Resort Workers' Preferred Sources for HIV/AIDS/STI Information*
BBS, Maldives, 2008

Nationality	Local		Expatriate	
Sources of Information	**18-24 years old**	**25 years old and above**	**18-24 years old**	**25 years old and above**
Television	25	71	6	89
Radio	7	30	0	24
Newspaper/magazine	9	23	0	38
Pamphlets/brochures	11	44	1	34
Posters	2	12	1	7
Clinics	1	9	0	5
Hospitals	2	11	1	5
NGO	8	16	0	5
Workplace	8	26	1	13
School	1	8	1	1
Internet	11	31	2	23
Friends	4	19	0	6
Families	2	7	0	1
Other sources	counseling	Books, counseling, seminar		Doctor, counseling, mobile phone

*multiple responses

Table 23. Seafarers' and Construction Workers' Preferred Sources for HIV/AIDS Information*

BBS, Maldives, 2008

Group	**Seafarers**	**Construction Workers**
Sources of Information	**Frequency**	**Frequency**
Television	41	*21*
Radio	*28*	*7*
Newspaper/magazine	*11*	*5*
Pamphlets/brochures	*6*	*0*
Posters	*0*	*2*
Clinics	*0*	*0*

Group	Seafarers	Construction Workers
Sources of Information	**Frequency**	**Frequency**
Hospitals	*6*	*0*
NGO	*0*	*0*
Workplace	*5*	*0*
School	*0*	*1*
Internet	*1*	*0*
Friends	*9*	*7*
Families	*0*	*1*
Other sources	*3 (doctor, boat crew)*	*0*

*multiple responses

Table 24. Youth in Male' Preferred Sources for HIV/AIDS/STI Information* BBS, Maldives, 2008

Sex	Male		Female	
Sources of Information	**15-17 years old**	**18-24 years old**	**15-17years old**	**18-24 years old**
Television	44	46	34	54
Radio	18	20	16	23
Newspaper/magazine	10	13	10	16
Pamphlets/brochures	8	23	16	19
Posters	11	11	8	11
Clinics	7	15	5	12
Hospitals	16	25	13	24
NGO	5	10	5	8
Workplace	6	10	4	7
School	18	14	14	8
Internet	25	38	21	37
Friends	13	14	11	16
Families	5	9	5	12
Other sources	6	8	9	5

*multiple responses

Table 25 . Youth in Laamu' Preferred Sources of HIV/AIDS/STI Information*
BBS, Maldives, 2008

Sex	Male		Female	
Sources of Information	**15-17 years old**	**18-24 years old**	**15-17 years old**	**18-24 years old**
Television	12	8	23	14
Radio	4	5	7	5
Newspaper/magazine	5	6	9	3
Pamphlets/brochures	2	1	5	9
Posters	1	1	1	1
Clinics	0	0	3	2
Hospitals	7	5	7	9
NGO	1	0	1	0
Workplace	1	0	1	0
School	0	0	3	1
Internet	8	11	6	6
Friends	6	4	3	0
Families	2	1	2	0
Other sources	0	0	1	0

*multiple responses

Findings on Condom Access Preferences

It has been highlighted in the findings that condom use among the groups surveyed in this BBS is very low, reflecting a discrepancy between risk perception and behavior. The government has not yet taken a leap on the condom distribution program, a strategy most countries are pursuing actively in their response to the threat of HIV. Nevertheless, respondents were able to get condoms in other ways during the last 12 months (see Figure 33.). The BBS also explored the most convenient ways for the populations at high risk to get condoms. Across all the groups, the pharmacy is the most popular source for condoms. Certain groups would also prefer clinics, including FSWs, MSM in Male' 25 years and older, IDUs in Addu, expatriate resort workers, youth l9 and older in Male' and females (15-17 years old) in Laamu. Supermarkets are popular choices of those l8 and older. Finally, vending machines were mentioned by the FSWs and IDUs in Male' as likely to be convenient places to access condoms.

A SUMMARY OF KEY FINDINGS

- A 0.2% HIV prevalence was detected among resort workers
- Ulcerative STI (syphilis) was detected among 1.2% of resort workers
- Hepatitis B was found among MSM in Addu' (6%), seafarers (4%), construction workers (3%), and resort workers (2%).
- Hepatitis C was detected among IDUs in Male' (0.8%) and Addu (0.7%)
- Population overlaps occur among different risk groups
- Unprotected sex is high in all the risk groups
- There is sharing of unsterile injecting needles and syringes among IDUs
- Injecting drug use is prevalent in prison and rehabilitation centers
- Most MSM have sex with women as well as men; many are married.
- Premarital sex is high among the youth
- Group sex is also reported among the youth
- Selling of sex is found among the 18-24 year old in Laamu
- Buying of sex is also found among the 18-24 year old in Male'
- Injecting drug use is also found among the 18-24 year age group
- Commercial sex work starts as early as 12 years old
- Drug use starts as early as 9 years old (median 16 years) and injecting drug use starts as early as 12 years old (median 22 years old)
- Male clients usually access FSWs along the streets/harbour
- Police, businessmen and government employees are top clients of FSWs
- There is an important knowledge-practice gap: most are aware of how to prevent HIV transmission but still have low condom use
- There is high self-reported signs and symptoms of STI but poor health-seeking behavior: most self-medicate or do nothing about STIs
- There is a poor uptake of VCT
- Television, newspapers, pamphlets/brochures, radio and internet are top sources from which respondents want to get information on HIV/AIDS/STI
- Pharmacies, supermarkets and vending machines are top choices for condom access

CONCLUSIONS

There is a potential route for HIV transmission in the country. A sizeable number of risk groups (FSWs, Male clients of FSWs, MSM, IDUs and youth) were found in Male', Addu and Laamu, where an HIV epidemic may just start. HIV was found among the male clients of FSWs (resort workers). Although HIV prevalence still appears still to be less than 1%, sexually transmitted infections (STIs) are found among the other risk groups as well. Syphilis, an ulcerative STI, was detected among the resort workers with a prevalence of 1.2%. STIs, particularly, the ulcerative type, increase the risk of acquiring and transmitting HIV. Hepatitis B was detected among the resort workers, MSM, Seafarers, construction workers and IDUs.

One of the ominous signs of the spread of HIV in Asia is the existence of injecting drug use coupled with commercial sex. This first BBS found one third of Male' FSWs are also drug injectors. A FSW who is also an IDU has sex with male clients, who in turn, have sex with their wives and/or girlfriends. This FSW may also have sex with a spouse, a boyfriend or non-regular partners, who may be injecting drug users.

Similarly, the BBS detected Hepatitis C among IDUs in Male' and Addu. Hepatitis C implies widespread needle and syringe sharing; this is also the most efficient way of transmitting HIV. The potential for HIV transmission is accelerated by non-use of condoms and the sharing of unsterile needles and syringes among injectors.

Aside from the risk behaviors themselves, a growing concern is the early age at which commercial sex and injecting drug use are starting in the Maldives. Children as young as nine succumb to these practices, the BBS found. The government has not fully established a program targeting this age group.

Maldives is showing other warning signals of a possible future epidemic which need to be closely monitored by the national program, including injecting drug use in prisons and rehabilitation centers and risk behaviors found among the 18-24 year age group (selling and buying of sex, group sex, male-to-male sex, sex with non-regular partners, and injecting drug use.)

In spite of multiple risks, risk perception is low. Most of the respondents in the BBS focus on limiting their sexual partners, rather than on condom use. Others have misconceptions, such as the belief that there is no HIV in the Maldives, or that the Muslim religion can protect the country against HIV.

Added to this is poor health-seeking behavior, with many who choose to self-treat or do nothing at all about signs and symptoms of STI are experienced, despite the availability of health facilities that can address STI problems. Very few Maldivians present themselves for Voluntary Counseling and Testing (VCT).

Risky practices and poor health-seeking behavior may relate to the type of information on HIV and STIs currently disseminated in the Maldives. This probably reflects the lack of specific information on condom use and safe injecting practices. The taboo nature of premarital sex and drug use prevents discussion of them or their inclusion in curricula for youth. As a result, although awareness on HIV transmission is quite high, condom use is low and sharing of injecting needles and syringes is common.

This first BBS has clearly shown that the risk environment of Maldives is evolving rapidly and calls for close monitoring. Thus, surveillance rounds need to be implemented periodically. The national program should investigate the interplay of factors needed to halt the spread of HIV. It must learn from the experiences of other low prevalent countries, like Indonesia, where an unexpected surge of HIV among inmates in the prison led to a rapid rise in HIV cases.

The Maldives needs to be inspired by how other countries have developed comprehensive intervention programs with a full package of outreach services including condom distribution, STI screening and treatment and outreach education, an effective combination for the fight against HIV.

RECOMMENDATIONS:

National AIDS Council

1. Utilize results of the BBS to draft policies that will create an enabling environment for the most-at-risk populations
2. Mobilize funds for more operational research, mapping activities, and the expansion and sustenance of an active HIV surveillance system
3. Encourage participation of NGOs and other civil societies in the council

Department of Public Health

1. Ensure that monitoring of HIV prevalence and behaviors stays at the forefront of the HIV response
2. Convene the members of the "coordinating body" and conduct a management and technical review of the 2008 BBS to plan out for the next BBS (include review of questionnaires, retention or expansion of surveillance groups, and expansion of surveillance sites)
3. Schedule regular meetings of the coordinating body and encourage active participation of the national AIDS program and the national reference laboratory
4. Augment the staff of the national AIDS program and assist in the establishment of an active HIV surveillance system

National AIDS Program

1. Cost out the establishment and maintenance of an active surveillance system (biological and behavioral) and request regular annual funding from the Ministry of Health and Gender
2. Solicit technical assistance to use findings of the BBS, mapping and reports from the peripheral clinics in estimating the size of the most-at-risk population and people living with HIV for better program planning
3. Forge a partnership with the national reference laboratory in establishing an active HIV surveillance system
4. Review targets set in the National Strategic Plan utilizing the findings of the BBS
5. Spearhead development of a behavior change communication plan that emphasizes condom use for STI prevention, corrects misconceptions about religion as protective blanket against HIV, increases awareness on the existence of HIV in the country, and addresses interactions between high risk populations, recognizing that they are not isolated
6. Consider the uniqueness of behavior dynamics across sites and design interventions that address specific, localized risks
7. Popularize VCT and intensify promotion of the importance of knowing one's HIV status
8. Re-invent health clinics that will attract clients not only from the general population but also from the marginalized populations and from the male population for their STI concerns
9. Design a full package of HIV prevention outreach services including IEC, condom distribution, sterile needle and syringe distribution and encouraging participation of NGOs

10. Discuss with NNCB, Home Ministry, Journey and other NGOs catering to drug users the BBS findings of high prevalence of unsterile needle and syringe sharing and existence of injecting drug use inside the prisons and rehabilitation centers
11. Conduct advocacy activities and encourage participation of groups at risk, including FSWs, MSM, and IDUs
12. Solicit assistance of the Tourism Ministry to involve resort owners in designing HIV/STI prevention program specific for resort workers
13. Coordinate with the Seafarers and construction workers associations, discuss behavioral issues encountered by these groups and encourage their participation in developing HIV/STI prevention programs
14. Coordinate with Education Ministry, discuss risk behavior among the youth and solicit their assistance in designing HIV/STI prevention program to meet the needs of in-school youth
15. Review guidelines regarding discrimination and ethical considerations during surveillance and research
16. Consider reaching out to religious people and discussing with them findings of the BBS

UN Agencies

1. Publish findings of the 2008 BBS through a technical report manual and CD, fact sheets, etc
2. Assist DPH in soliciting funds for workshops that will increase awareness of different groups of people: key government officials, high risk population
3. Assist DPH in soliciting funds for the conduct of "drum-beating' activities such as parades, marathon, etc to increase awareness of general public on HIV and STI
4. Assist the government in conducting in-depth studies among the under-18 age group that will explore the reasons behind their HIV risk behaviors

Youth Ministry, Youth Health Café'

1. Establish more counseling services (such as a 24-hour hotline) for the youth
2. Establish youth centers where the youth can interact healthily through holistic programs like sports, culture and arts, science
3. Conduct periodic sessions on sexuality among the youth

Gender Ministry, SHE

1. Address issues on child abuse, child prostitution, drug use among adolescents through drafting of policies/laws
2. Establish child centers operated by counselors in strategic places where children can explore their intellects and develop their emotional IQ through child plays, reading materials and other activities appropriate for their stages of development
3. Establish counseling centers for the child and parent/guardian to address a growing gap between a parent/guardian and child
4. Coordinate with the Center for Community Health and Disease Control on the establishment of child-friendly STI clinics for children and adolescents
5. Develop child-friendly campaign to address issues of child prostitution as well as early drug abuse via television and internet

6. Encourage participation of NGOs as partners in establishing programs addressing concerns of children and adolescents, particularly on issues regarding prostitution, drug use

Education Ministry

1. Conduct forums and other activities that will involve parents and students in discussing issues on HIV/STI and designing HIV/STI prevention programs for the youth and the family

Resorts, Shipping Companies, Construction Companies

1. Provide condoms in the work place
2. Set up a corner in the work place where HIV/STI brochures/pamphlets can be accessed
3. Coordinate with the National AIDS Program in providing periodic lectures on HIV/AIDS and STI among the workers

IGMH

1. Assist the National AIDS Program in the costing of serologic surveillance
2. Take an active role in the coordinating body, particularly on issues regarding testing

Global Fund

1. Continue supporting the country in terms of continued funding in its fight against HIV/AIDS
2. Provide technical assistance to the PR and SRs in communication, advocacy strategy development, program management, monitoring and evaluation, procurement and logistics and finance
3. Strengthen CCM by providing capacity building opportunities to CCM members
4. Encourage the country to submit proposal for the next round of GF utilizing the findings of the 2008 BBS

UNAIDS/WHO

1. Support the country in establishing an active HIV surveillance system
2. Encourage the country to submit to the UNGASS and WHO Strategic Information indicators obtained from the BBS
3. Assist the country solicit funds for the next round of GF proposal writing
4. Provide technical assistance to the country in developing guidelines on VCT and promoting VCT to health personnel and the public
5. Assist the country in soliciting funds for more research, particularly mapping of the most-at-risk population in other sites, and a national M&E system

APPENDIX A:

Biological and Behavioral Survey (BBS) Survey Protocol

Recruitment of Study Participants
A. Respondent-driven Sampling (RDS)

RDS combines "snowball sampling" (getting individuals to refer those they know, these individuals in turn refer those they know, and so on) with a mathematical model that weights the sample to compensate for the fact that the sample was collected in a non-random way. RDS resolves what had been an intractable dilemma when sampling hard-to-reach groups, that is, groups that are small relative to the general population, for which no exhaustive list of population members is available. This includes groups relevant to public health, such as drug injectors, sex workers and men who have sex with men, groups relevant to public policy such as street youth and the homeless, and groups relevant to arts and culture such as jazz musicians and other performance and expressive artists.

Table 1. RDS Sampling Methodology

Group	Sample Size	Method
IDU	150	WAVE 0: 5 seeds → WAVE 1: 2 recruits each seed (10 recruits) → WAVE 2: 2 recruits each (20 recruits) → WAVE 3: 2 recruits each (40 recruits) → WAVE 4: 2 recruits each (80 recruits)
FSW	120	WAVE 0: 4 seeds → WAVE 1: 2 recruits each seed (8 recruits) → WAVE 2: 2 recuits each (16 recruits) → WAVE 3: 2 recuits each (32 recuits) → WAVE 4: 2 recuits each (64 recruits)
MSM	100	WAVE 0: 3 seeds → WAVE 1: 2 recruits each seed (6 recruits) → WAVE 2: 2 recuits each (12 recruits) → WAVE 3: 2 recruits each (24 recruits) → WAVE 4: 2 recruits each (48 recruits) → WAVE 5*: 1 recruit each (* one recuit each until the desired sample size of 100 is reached)

Table 2. Characteristics of the Seeds in RDS Methodology

Group	Characteristics
IDU	Seed 1: Male IDU
	Seed 2: Female IDU
	Seed 3: IDU w/ history of imprisonment
	Seed 4: Male IDU selling sex for drugs
	Seed 5: Female IDU selling sex for drugs
FSW	Seed 1: Expatriate
	Seed 2: Local FSW w/ transaction done through mobile phones/cruising
	Seed 3: Local FSW w/ transaction done through friends/relatives/pimps
	Seed 4: Local FSW w/ transaction done through work (fueling stations, massage parlors, café, etc)
MSM	Seed 1: outright "gay"
	Seed 2: married, bisexual
	Seed 3: single, bisexual

Table 3. Proposed Schedule of Interviews in RDS Methodology

Group	Schedule	WAVE Number
IDU	Day 1	WAVE 0: 5 Seeds
	Day 2	WAVE 1: 10 recruits
	Day 3 & Day 4	WAVE 2: 20 recruits
	Day 5, 6,7 & 8	WAVE 3: 40 recruits
	Day 9, 10, 11, 12, 13, 14, 15 & 16	WAVE 4: 80 recruits
FSW	Day 1	WAVE 0: 4 Seeds
	Day 2 & 3	WAVE 1: 8 recruits
	Day 4, 5 & 6	WAVE 2: 16 recruits
	Day 7, 8, 9, 10, 11, 12, 13, 14, 15 & 16	WAVE 3: 32 recruits
	Day 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29 & 30	WAVE 4: 64 recruits
MSM	Day 1	WAVE 0: 3 seeds
	Day 2 & 3	WAVE 1: 6 recruits
	Day 4, 5 & 6	WAVE 2: 12 recruits
	Day 7, 8, 9, 10, 11, 12 & 13	WAVE 3: 24 recruits
	Day 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24 & 25	WAVE 4: 48 recruits
	Day 26, 27, 28, 29 & 30	WAVE 5: remaining 7 recruits

The Station:

Each group is given work station running for a specified period of time. A building that is accessible and safe for the respondents may be chosen. Also, a mobile station like a van may be used as a station especially for FSW and MSM who are stigmatized to go to certain establishments for the interview and blood extraction.

The station is staffed by trained enumerators and medical technologists at the specified period of time. Confidentiality is ensured during interview and blood extraction.

Recruitment:

The team members together with the team leader select the seeds based on the criteria set (Table 2) on the first day. Before the interview, screening is done by the enumerator and approved by the team leader, according to inclusion criteria.

Table 4. Inclusion Criteria for IDU, FSW and MSM

IDU	• A person who injected drugs (at least once) for recreational purposes in the past six months; • Less than 50 years old; • Maldivian or expatriate
FSW	• Female sex workers who are within a network of sex work in Maldives (transactions can be made through "pimps"or other gate keepers like taxi drivers/hotel guards/receptionists, through phones; transactions can also be made in guest houses, traditional medicine clinics, resorts and other cruising areas); • She has accepted cash or "kind" or drugs in exchange for sex in the past month (If in kind, such as cellphone, drugs, perfume or tours, quantification is needed for purposes of comparability); • Less than 49 years old; • Maldivian or expatriate
MSM	• Males who had oral/anal sex with other males in the past year; • Less than 65 years old; • Maldivian or expatriate

Upon approval by the team leader, each respondent is assigned a serial number. The code is composed of six digits (first two digits: sentinel site, 3rd digit: sentinel group, 4th to 6th digits: respondent number based on the questionnaire). This code also serves as the laboratory code to identify specimens. The seed is asked information on demographics. An informed consent is read out to him/her and if he/she opts for the interview, the enumerator and the team leader sign the consent form.

The interview has two parts: a thirty to forty-minute long questionnaire, administered by the enumerator, and blood extraction with pre-test counseling. The interview consists of a pre-tested structured questionnaire about sexual behavior, drug taking behavior, health-seeking behavior, awareness on HIV and program intervention exposure. After the interview and field checking by the enumerator and assistant team leader, the respondent is turned over to the medical technologist. Upon verification of the code, pre-test counseling is given, followed by blood collection.

Subsequent Recruits:

After the interview and blood collection, the respondent is given a 50 Ruffiya voucher as a gift. He or she is asked to recruit two others into the study and is given another 50 Ruffiya for each recruit. Two coupons are given to the respondent for recruitment. Each coupon has with it the name of the study, the seed number, the date and time of interview, place of interview, contact number for inquiries and appointment verification.

The respondent is given instruction on the recruitment process, particularly on the inclusion criteria. The recruitment of respondents continues until the required sample size is reached.

What if…?

Since we are dealing with a hidden population, we expect to encounter people who are not willing to divulge themselves to others by going to the designated place of interview. If a request is received regarding a different place and date and time of interview, the enumerator who received the request may give the appointment, provided that the regular schedule is not be affected. The enumerator must also make sure that the medical technologist is available at the requested time and date.

Some respondents may agree to the interview but not to blood extraction. Should such a case occur, the enumerator can proceed with the interview, providing the pre-determined respondent serial number on the questionnaire. The laboratory slip corresponding to that particular questionnaire is discarded.

The succeeding respondent takes on the next respondent serial number, including the corresponding laboratory code.

There may also be respondents who opt for blood extraction but do not agree to the interview. Those respondents then take on the pre-determined respondent serial number corresponding to the order by which they are supposed to be interviewed.

There may be cases when a respondent may come to the designated station either for interview or blood extraction but for some reason may request another appointment time. This request should be honored, his/her questionnaire marked accordingly, and the change noted in the logbooks of both the enumerator and the medical technologist.

The Trial Period

Since this is the first time that BBS is being conducted in the Maldives, stigma is still high. If there is difficulty in getting key informants during the mapping period, or should response rate be low through RDS during the first week, a "plan B" will come into effect.

Each day, either before or after the interview schedule, the groups meet with the consultant to discuss how recruitment, interviews and blood extraction are going. On the third or fourth day, if response rate is low, then the team prepares to shift to non-probability sampling (snow ball or purposive sampling).

B. Non-probability Sampling

Non-probability sampling is sampling in which the probability of each member of the population to be selected in the sample is difficult to determine.

1. Snowball or Network Sampling:
   A method in which the person identified to be part of the target population is interviewed for the study and asked to identify other members of the population. The process continues until a desired sample size is reached.

2. Purposive sampling:

   A method in which the sample is selected based on an expert's subjective judgment or on some pre-specified criteria.

Recruitment by Snowball Sampling

Initial Recruits:

After mapping, contacts from the target population (IDU, FSW, MSM) are already established. These contacts can become the initial recruits, provided they fulfill the inclusion criteria. Other strategies to get the initial recruits can

also be utilized, for example accessing a MSM website. The team leader or an enumerator can get recruits from the site and set an appointment for interview and blood extraction. Another approach is through gate keepers such as taxi drivers, ferry drivers, guest house keepers, café' waiters, asking for probable respondents. Once the probable respondent is located, the procedure is explained and informed consent is read, to obtain the respondent's approval to be included in the study. Another approach is to make contact by phone and explain by phone the purpose of the study and the risks and benefits.

Subsequent Recruits:

From these initial recruits, the enumerators can ask for contact numbers or addresses of their networks for probable recruitment. The process continues until the desired sample size is reached.

Recruitment by Purposive Sampling

The enumerator goes to sites at a specified time identified during the mapping period to look for probable respondents. Based on the enumerator's judgment, a respondent may be recruited to the study provided that he/she fulfills the inclusion criteria.

The "Take All Approach"

The mapping results in Addu and Laamu showed an estimate of the risk groups which are lower than the computed sample size. For these atolls, a "take all" approach (getting the whole universe) is utilized.

The team may utilize some innovative strategies. One is conducting a special event, such as a party, and inviting the target population to this event. If the number of respondents is large enough, a series of events may be scheduled until the whole population is exhausted.

This approach entails an intensive site preparation, lasting approximately two weeks to one month, to access the target population, inform them of the study, explain its purpose, benefits and risks and get their commitment to come for a specified period of time for the interview and blood collection.

C. Simple Random Sampling

A type of sampling in which every element in the population has equal chance of being included in the sample.

Construction Workers

Sample size is computed at 100. Based on probability proportional to size, respondents are chosen from 66 companies (see ANNEX 1). Upon arrival at the pre-determined company, attendance lists for the day are requested from the manager/field supervisor. Random selection from the list is done either by lottery or using Ruffiya bill or random numbers until the desired sample size for the company is achieved. If the person randomly picked declines, the next worker in the list is chosen.

Sea Farers

Mapping shows that only six shipping companies are functional with a total number of 130 local sea farers who finish their nine-month contract by June. A sample of 100 is desired.

Recruitment of participants is done on board during the first day that the ship docks. All local seafarers who fulfill the inclusion criteria are interviewed.

Table 4. Inclusion Criteria for Construction Workers, Sea Farers, Resort Workers and Youth

Group	Inclusion Criteria
Construction Workers	• aged 25-49 years old; • who had been working in Male' and Addu within the past six months; • Expatriates
Sea Farers	• Male seafarers who returned to the country in 2008 after at least six months of contract; • 65 years old and below; • Maldivian
Resort Workers	• Males; • 20-49 years old; • employed in a resort in Maldives within the past six months; • Maldivian or expatriate
Youth	• Maldivian males and females aged 15-24 years old who are attending school, out-of-school or already employed

D. Cluster Sampling

A method in which sampling units are clusters of elements instead of individual units. This is used when a sampling frame for elementary units or elements is not readily available or when cost considerations are important.

Resort Workers

The sample size is computed at 460. Based on the right sized software of CDC, 46 clusters/resorts with ten respondents each are needed.

Upon arrival at the resort, the list of attendance for the day is requested from the Human Resource Manager/Supervisor. Random selection from the list is done either by lottery, or using Ruffiya bill or random numbers until the ten sample size required is achieved. .

Youth

The blocks in Male' and Laamu have been chosen as the clusters for these sites.

For Male', 46 blocks are chosen based on the right size software of CDC.

Upon arrival at the chosen block, the enumerators choose the central area of the block and from there decide what direction to take (either right or left). If the block is small, the enumerator starts with the first house in the determined direction and moves to the second house, continuing until the sample size of ten is obtained.

For Laamu, all the 140 youth listed during the mapping are interviewed.

D. Manners in Recruiting Participants

The interviewers should observe three basic rules:

1. Interviewer introduces him/herself
2. Establish rapport with the respondent
3. Explain the purpose, procedure, benefits and possible risks of the activity

Interviewers Introduce Themselves:

- be polite, natural, relaxed and friendly
- introduce yourself, companions, organization
- present ID or letter of introduction, if requested
- be positive in manner rather than apologetic

Establish Rapport with the Respondent

- explain how interview will be conducted; how much time needed
- be familiar with group's way of talking
- start with topics not related to HIV/AIDS

Explain the Purpose, Procedure, Benefits and Possible Risks of the Activity

- gather information and determine if certain groups are at high risk for HIV/STI
- responses are vital to help DOH design
- design appropriate and effective prevention control programs

Explain Benefits

- Free test for HIV, syphilis, Hepatitis B and Hepatitis C (for IDU) and free treatment, if positive
- Counseling and education services
- They are target beneficiaries for the improved prevention and control programs
- Support advocacy activities for their group

Explain Possible Risks for Study Participants

- Breach in confidentiality
- Identity revelation
- Slight discomfort or hematoma from blood collection area

The enumerator or interviewer should assure the respondent that appropriate measures are put in place to prevent or avoid all the possible risks.

E. Securing Informed Consent

Once the enumerator has introduced himself/herself and the study to the participant, he or she reads out the verbal informed consent. Informed consent implies that respondent or study participant was given the following:

- ❖ Nature of the activity
- ❖ How privacy will be protected
- ❖ Any risks and/or benefits
- ❖ Right to refuse any questions
- ❖ Option to stop interview at any time

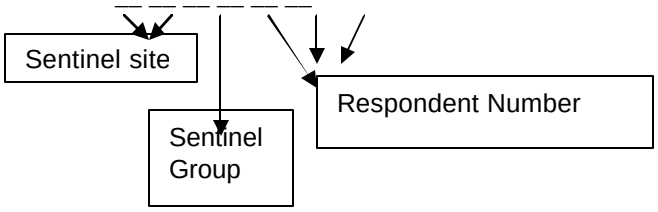
The consent should be obtained prior to the interview. No staff should pressure, coerce or deceive any potential study participants. The decision of the participant should be voluntary. If the participant agrees to continue with the interview, the enumerator signs the consent and asks the assistant team leader to witness the process. Although securing verbal informed consent seems to be a tedious process, it is important that this is done and properly documented for the legal protection of the team.

F. The Questionnaire

The Respondent Serial Number

One of the ways of ensuring confidentiality of the respondent's identity is the provision of code or the respondent serial number. The enumerator does not ask for the respondent's name but assigns a code which only the respondent knows. This code is used for the specimen. After blood extraction, a slip is handed to the respondent with the serial number or code. If the respondent opts to get the results of the blood tests, he or she presents the slip to the designated doctor at the IGMH or the Regional Hospital.

The respondent serial number is composed of six digits. The first two digits correspond to the sentinel site, the third digit corresponds to the sentinel group and the last three digits correspond to the respondent's number:



Sentinel Site:

01 = Male' (including Vilingili and Huhlumale
02 = Addu
03 = Mafushi prison
04 = Laamu

Sentinel Group:

1 = FSW (Female Sex Workers)
3 = MSM (Males having Sex with Males)
4 = IDU (Injecting Drug Users)
5 = Sea Farers
6 = Resort Workers
7 = Construction Workers
8 = Youth

Respondent Number:

001 up to 120 (FSW)
001 up to 100 (MSM)
001 up to 150 (IDU)
001 up to 250 (Sea Farers)
001 up to 460 (Resort Workers)
001 up to 100 (Construction Workers)
001 up to 460 (Youth)

The questionnaire is pre coded. The team leader ensures that the questionnaires are properly coded before he/she distributes the questionnaires to the assistant team leaders on the day of interview. The questionnaire is numbered according to the order of the interview or respondent. If the respondent declines in the middle of the interview, then the next respondent takes the next questionnaire with the corresponding respondent serial number. In another instance, if the respondent declines to have his/her blood taken, the slip (laboratory request form) where the corresponding code is written is discarded. The next respondent who agrees to have his/her blood taken then takes on the respondent serial number of the next questionnaire. If in some cases where respondent agrees to have

his/her blood taken but declines to have an interview, he/she takes on the code of the assigned questionnaire, and the next respondent takes on the next questionnaire with the corresponding code.
The Content

The purpose of the questionnaire is to determine the risk behaviors that the groups are practicing which may predispose them to acquire and/or transmit HIV, i.e., focused on risk. Each questionnaire is designed according to the survey group's needs. However there are some blocks that are similar to all the groups: the alcohol and narcotics block, the health care practices block, the knowledge on HIV and the other information block.

The sexual behavior block is designed uniquely for each group. For the FSW, the questionnaire asks the sexual behavior with the different sex partners: steady partner, clients, male partners other than the steady partner and/or the client. Sexual behavior questions for the MSM group tackles the following: sex with men (consensual and/or paid), sex with FSW and the use of condoms and lubricants. The IDU sexual behavior questions are focused on the IDU's permanent partner/s, FSWs, work as a sex worker, other partners and if male, sex with other male/s. The youth questionnaire determines the youth sexual behavior with a sex worker, as sex workers, with wife/husband or girlfriend/boyfriend, with other partners and if male, with other male/s. Lastly, the sexual behavior block for the occupational cohorts of men (OCM) deals with sex with FSW, with permanent partner/s, with women other than the wife, girlfriend and/or FSW and with other male partners (consensual or paid).

G. Guidelines in Administering the Questionnaire

In administering the questionnaire, the enumerators should be guided by the following points:

1. Asking Questions
2. Overcoming Embarrassment
3. Inconsistent responses
4. Answering Queries
5. Probing
6. Speed of Interviewing
7. Recording Responses
8. Use of Filters
9. Checking Completed Interview
10. Ending the Interview

1. Asking Questions

- Ask slowly and clearly
- Do not rephrase; rephrasing questions may alter message and responses
- Encourage participant to request to repeat question if not understood
- Show no feelings, don't indicate approval, disapproval or surprise

2. Overcoming Embarrassment

- Personal questions may embarrass participant
- Assure confidentiality of responses
- Express understanding of their feelings but request for full cooperation

3. Inconsistent Responses

- Note contradictory responses
- Be polite, point out inconsistency and probe for accurate response

4. Answering Queries

- Do not answer queries during the interview
- Advice or information maybe given at the end of interview

5. Probing

- Probe for unclear or incomplete responses
- Avoid leading questions or comments
- Validate response if you captured what the participant meant

6. Speed of Interviewing

- Ask questions slowly but maintain reasonable pace
- Minimize interruptions and distractions
- Steer participant back when distracted or led off track

7. Recording Responses

- Write directly on the questionnaire
- Write legibly
- Use black pen
- Cross out with one single line the wrong answer and write legibly the correct answer on the space provided for answers

8. Use of Filters

- Take note of skip instructions
- Skipped questions should be crossed-out
- Familiarize yourself with and always check for skipping instructions

9. Checking Completed Interview

- See to it that no responses are missing
- That filters have been completely followed
- That responses are legible

10. Ending the Interview

- Thank the participant/respondent
- Encourage participant to ask questions about survey
- Distribute, if available, IEC materials, condoms
- If the respondent agrees to have his/her blood taken, hand him over personally to the medical technologist/phlebotomist for the blood collection
- If the medical technologist/phlebotomist is still busy extracting blood on another respondent, the enumerator should not leave the respondent until the procedure has actually started

H. The Laboratory Request Form and the Result Claim Card

The Laboratory Request Form is a small slip attached to the bottom of the first or second page of the questionnaire. This slip is filled out by the enumerator if the respondent agrees to have his/her blood taken. The enumerator copies the respondent serial number written on the questionnaire, and fills out the date of collection. Once the enumerator hands over the respondent to the medical technologist/phlebotomist, the respondent signs the laboratory request form. The enumerator then waits for the medical technologist/phlebotomist to sign before he/she completely releases the respondent.

When the extraction is finished, the medical technologist/phlebotomist copies the respondent's serial number on the result claim card and signs this card before giving to the respondent. The respondent is advised that if he/she opts to get the result, he/she can just go to the Department of Public Health, National AIDS Program Manager, in Male' or the Regional Hospital in Addu and Laamu and look for the name of authorized person specified on the card. He/she is the one to provide the respondent the result and the post test counseling at the specified time.

LABORATORY REQUEST FORM

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Respondent Serial Number ފަރާތްތަކުގެ ސީރިއަލް ނަންބަރު	Date of Collection ފުށުހެދި ތާރީޚް
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_____
Signature Over Printed Name of Interviewer

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_____
Signature Over Printed Name of Phlebotomist/Medical Technologist

ފުށުހެދި ލާބު / ލެބޯޓަރީ ޓެކްނޮލޮޖިސްޓުގެ ސޮއި ހަމަ ނަން

RESULT CLAIM CARD

Respondent Serial Number ފަރާތްތަކުގެ ސީރިއަލް ނަންބަރު	Date of Collection ފުށުހެދި ތާރީޚް
□□ 1 □ □ □ _____ Name & Signature of Medical Technologist/Phlebotomist	□□/ □□ / □□ m m d d y y ދ ދ ފ ފ ހ ހ
Please get result on: _____ (Date) At the Department of Public Health, National AIDS Program and look for: Mr. Mohamed Rameez, National AIDS Program Manager, contact number: 7781550	

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I. Minimum Standards for Interviewers

The knowledge, skills and attitudes of enumerators/interviewers greatly influence the success or failure of data collection. It is therefore imperative that selection and recruitment of enumerators/interviewers be made carefully to ensure they best correspond to the needs of the specific sentinel group they work with.

The following minimum standards are expected from the surveillance team enumerators/interviewers:

- Able to explain the objectives of the activity
- Commits to memory the questions, including the overall flow of the questionnaire
- Determines skipping instructions
- Is fluent in the local language
- Administers the interview in a conversational manner
- Probes responses whenever necessary
- Validates responses whenever necessary
- Edits completed interviews properly, prior to submission to assistant team leader
- Is non judgmental
- Has a non-discriminating attitude
- Has strong knowledge of HIV/AIDS and STI
- Maintains confidentiality

APPENDIX B1: IDU

Table 1. Demographic Profile of IDU in Male'
BBS, 2008, Republic of Maldives

Sex	**Male**			**Female**		
Age Group / **Socio- demographic Variables**	**15-19 years old (n=8)**	**20-24 years old (n=46)**	**25 years old and above (n=89)**	**15-19 years old (n=1)**	**20-24 years old (n=1)**	**25 years old and above (n=2)**
Education						
- never			2 (2%)	1 (100%)		
- grade 1-7	2 (25%)	9 (20%)	22 (25%)			1 (50%)
- grade 8-10	4 (50%)	26 (56%)	43 (48%)		1 (100%)	
- GCE O' level	2 (25%)	8 (17%)	18 (20%)			
- High school		1 (2%)	4 (4%)			
- Vocational		1 (2%)				
- College/faculty		1 (2%)				
- Undergraduate						1 (50%)
- Post graduate						
Marital status						
- never married	8 (100%)	39 (85%)	51 (57%)	1 (100%)		1 (50%)
- married		5 (11%)	16 (18%)			1 (50%)
- separated		1 (2%)	3 (3%)		1 (100%)	
- widowed		1 (2%)	0			
- divorced			19 (21%)			
Occupation						
- unemployed		33 (72%)	59 (66%)	1 (100%)	1 (100%)	1 (50%)
- self-employed		4 (9%)	11 (12%)			
- permanent		4 (9%)	9 (10%)			
- contractual		5 (11%)	10 (11%)			1 (50%)
Monthly Income		Median: MRF4,500 (17-15,000)	Median: MRF4,000 (15-15,000)			MRF9,000

Table 2. Injecting Practices among IDU n Male'
BBS, 2008, Republic of Maldives

Sex	Male			Female		
Age Group **Injecting Practices**	**15-19 years old (n=8)**	**20-24 years old (n=46)**	**25 years old and above (n=89)**	**15-19 years old (n=1)**	**20-24 years old (n=1)**	**25 years old and above (n=2)**
Age, first used drug	Median: 15 y.o. (14-18)	Median: 14 y.o. (10-22)	Median: 17 y.o. (9-32)	9 y.o.	15 y.o.	14 y.o. & 19 y.o.
Age, first injected	Median: 16 y.o. (16-19)	Median: 20 y.o. (13-23)	Median: 26 y.o. (12-42)	16 y.o.	21 y.o.	27 y.o.
Drugs used, last 12 months	Marijuana: 3 Heroin: 8 Cologne/after shave: 1	Marijuana: 16 Crystal ice (methampheta-mine): 2 Heroin: 46 Cough syrup: 2 Ecstasy: 1 Cologne/after shave: 1 Pain killers: 6	Marijuana: 42 Crystal ice (methampheta-mine): 3 Heroin: 90 Cough syrup: 6 Ecstasy: 4 Cologne/after shave: 5 Pain killers: 14	Marijuana: 1 Crystal ice (methampheta-mine): 1 Heroin: 1 Cologne/after shave: 1 Pain killers: 1	Heroin: 1	Marijuana: 1 Heroin: 1 Cologne/after shave: 1 Pain killers: 1
Drugs injected, last injection	Heroin: 8 (100%)	Heroin: 45 (98%) Nalbuphine: 1 (2%)	Heroin: 88 (99%) Nalbuphine: 1 (1%)	Heroin: 1	Heroin: 1	Heroin: 2
Injected w/ previously used needle, l ast time	4/8 (50%)	9/46 (20%)	18/89 (20%)	1 (100%)	0	0
Cleaned syringe before using	1/4 (25%)	5/9 (56%)	6/18 (33%)	1 (100%)	N.A.	N.A.
What was used to clean the syringe	Heating: 1 (100%)	Water: 1 (20%) Boiling: 2 (40%) Lemon: 1 (20%) Heating: 1 (20%)	Water: 1 (17%) Boiling: 3 (50%) Heating: 2 (33%)	Lemon	N.A.	N.A.
If water was used to clean the syringe, was the same water used to clean the syringe w/ other IDU	N.A.	No	Yes	N.A.	N.A.	N.A.
Injected w/ other IDU, last time	5/8 (62%)	38/46 (83%)	61/89 (68%)	1 (100%)	1	2/2 (100%)
Pool funds together to purchase & divide drugs among themselves	4/5 (80%)	22/38 (58%)	28/61 (46%)	0	0	2/2 (100%)
Inject drugs, past 30 days	4/8 (50%)	24/46 (52%)	35/89 (39%)	1	1	½ (50%)
Frequency of injection, past 30 days	Once/month: 1 (25%) Once/day: 1 (25%) 2-3X/day: 2 (50%)	Once/month: 2 (8%) 2-3X/month: 4 (17%) Once/week: 1 (4%) 2-3X/week: 2 (8%) 4-6X/week: 2 (8%) Once/day: 5	Once/month: 2 (6%) 2-3X/month: 7 (20%) Once/week: 4 (11%) 2-3X/week: 1 (3%) 4-6X/week: 2 (6%) Once/day: 12 (34%) 2-3X/day: 6 (17%)			

		(21%) 2-3X/day: 5 (21%) 4 and more X/day: 3 (12%)	4 and more X/day: 1 (3%)			
Shared unsterile needle/syringe, past 30 days	2/4 (50%)	6/24 (25%)	8/35 (23%)	0	0	0
Injected away from home, past 30 days	4 (100%)	16/24 (67%)	23/35 (66%)	0	0	½ (50%)
Did not carry own syringe when IDU went out of home, past 30 days	4 (100%)	9/16 (56%)	7/23 (30%)	0	0	1 (100%)
Reasons for not carrying a syringe	Afraid of being caught (3) Available in injecting site (1)	Afraid of being caught (8) Others (1)	Afraid of being caught (11) Available in injecting site (2) Others (2)			Afraid of being caught
Where/from whom was the syringe obtained	pharmacy	pharmacy	Pharmacy Drug dealer			
Frequency needle/syringe is used before discarding	3X: 3 (38%) 5X: 1 (12%)	1X: 32 (70%) 2X: 8 (17%) 3X: 2 (4%) 4X and more: 4 (9%)	1X: 64 (70%) 2X: 11 (12%) 3X: 10 (11%) 4X and more: 6 (6%)		2X	1X
Injected in an IDU hang-out	6/8 (75%)	24/46 (52%)	31/89 (35%)	1	0	0
Injected in other atoll/country to inject w/ other IDUs	2/8 (25%)	5/46 (11%)	18/89 (20%)	1	1	½ (50%)
Ever been imprisoned	6/8 (75%)	42/46 (91%)	77/89 (86%)	1	1	½ (50%)
Used drugs while imprisoned	3/6 (50%)	28/42 (67%)	49/77 (64%)	1	0	0
Injected drugs while imprisoned	1/3 (33%)	6/28 (21%)	19/49 (39%)	0	0	0
Received information on HIV/AIDS/STI while imprisoned	1/6 (17%)	5/42 (12%)	16/77 (21%)	0	0	0
Ever been admitted in a drug rehabilitation center	2/8 (25%)	23/46 (50%)	51/89 (57%)	1	1	½ (50%)
Used drugs while admitted in the drug rehabilitation center	0	5/23 (22%)	10/51 (25%)	0	0	0
Injected drugs while admitted in a drug rehabilitation center	N.A.	1/5 (20%)	0	0	0	0
Received information on HIV/AIDS/STI while admitted in a drug rehabilitation center	½ (50%)	14/23 (61%)	0	1	0	1

Table 3. Sexual Behavior among IDU in Male'
BBS, 2008, Republic of Maldives

Sex	**Male**			**Female**		
Age Group	**15-19 years**	**20-24 years old**	**25 years old and**	**15-19 years**	**20-24**	**25 years old**

Behavior	old (n=8)	(n=46)	above (n=89)	old (n=1)	years old (n=1)	and above (n=2)
Consistent condom use w/ permanent/steady partner	0	3/29 (10%)	2/52 (4%)	0	0	1/1 (100%)
Consistent condom use w/ sex worker	0	3/15 (20%)	6/30 (20%)	0	0	0
Consistent condom use w/ client	0	0	2/9 (22%)	0	0	0
Consistent condom use w/ non-regular partner	0	3/23 (13%)	4/42 (10%)	0	0	0
Consistent condom use during anal sex w/ another male	0	1/2 (50%)	0	N.A.	N.A.	N.A.
Perceived self at risk for HIV	5/8 (62%)	26/46 (56%)	50/89 (56%)	1 (100%)	1 (100%)	0
Reasons for being at risk for HIV						
Often change sex partners	3	13	21		1	
Don't always use condoms						
Use injected narcotics	4	12	45	1	1	
Others	5	24	23		1	
Reasons for not perceiving himself/herself at risk for HIV						
Don't often change sex partners	2	10	20			1
Always use condoms						
Never used injected narcotics	2	1	1			
Convinced partner is healthy	1	3	6			
No HIV in the Maldives		1	2			
Don't do anal sex		1	6			
Never/rarely have sex w/ sex workers						
Practicing religion protects one from HIV		1	4			1
Others						
Experience d signs and symptoms of STI, last quarter	1/8 (88%)	9/46 (20%)	12/89 (86%)	1	0	0
Treatment when one experienced signs and symptoms of STI						
Health practitioner		2 (22%0	2 (17%)	1		
Didn't do anything	1 (100%)	6 (67%)	8 (67%)			
Self-medicate		1 (1%)	1 (8%)			
Others						
Facilities sought for treatment						
Hospital			3/12 (25%)	1		
Public facility						
Private clinic						
NGO						
Others						

Table 4 Proportion among IDU in Male' who Knows Three Correct Ways of Transmitting HIV and Rejecting the Misconceptions on HIV
BBS, 2008, Republic of Maldives

Sex	Male	Female

Age Group / Variables	15-19 years old (n=8)	20-24 years old (n=46)	25 years old and above (n=89)	15-19 years old (n=1)	20-24 years old (n=1)	25 years old and above (n=2)
Sex w/ one & faithful partner reduces risks of HIV transmission	7 (88%)	82%	85%	1/1 (100%)	1/1 (100%)	2/2 (100%)
Using condom prevents HIV	78%	68%	74%	1 (100%)	0	2/2 (100%)
Can tell if someone has HIV by just looking at him/her	88%	82%	88%	100%	100%	100%
Mosquitoes & other insect bites will transmit HIV	62%	54%	62%	0	100%	½ (50%)
Can get HIV by sharing food w/ someone who is infected	75%	78%	75%	100%	100%	2/2 (100%)

Table 5. Reached by HIV Prevention Program, Idu in Male'
BBS, 2008, Republic of Maldives

Sex	Male			Female		
Age Group / Variables	**15-19 years old (n=8)**	**20-24 years old (n=46)**	**25 years old and above (n=89)**	**15-19 years old (n=1)**	**20-24 years old (n=1)**	**25 years old and above (n=2)**
Know of a place to have a confidential HIV test	1 (12%)	23 (50%)	47 (53%)	0	0	1/2 (50%)
Given condom, last 12 months	4 (50%)	19 (41%)	23 (26%)	0	0	2/2 (100%)
Reached by HIV prevention program	31%	46%	40%	0	0	75%

Table 6. Reasons for HIV Tests among IDU in Male', Last 12 Months
BBS, 2008, Republic of Maldives

Sex	Male			Female		
Age Group / Variables	**15-19 years old (n=8)**	**20-24 years old (n=46)**	**25 years old and above**	**15-19 years old (n=1)**	**20-24 years old (n=1)**	**25 years old and above**

			(n=89)			(n=2)
Ever had an HIV test, last 12 months	1/8 (12%)	7 (15%)	15 (17%)	1	1	½ (50%)
Reasons for HIV testing, last 12 months **Voluntary** **For employment** **Work permit for migrant workers** **Medical reasons** **Overseas training/fellowship** **Return from overseas** **others**	1	3 (43%)	4 (27%)	1	1	½ (50%)

APPENDIX B2: IDU

Table 1. Demographic Profile of IDU in Addu
BBS, 2008, Republic of Maldives

Sex	**Male**			**Female**		
Age Group / **Socio- demographic Variables**	**15-19 years old (n=13)**	**20-24 years old (n=38)**	**25 years old and above (n=73)**	**15-19 years old (n=0)**	**20-24 years old (n=1)**	**25 years old and above (n=4)**
Education						
- never			1 (1%)			
- grade 1-7	7 (54%)	16(42%)	36 (49%)			1 (50%)
- grade 8-10	3 (23%)	13 (34%)	30 (41%)		1 (100%)	
- GCE O' level	3 (23%)	7 (18%)	5 (7%)			
- High school		1 (3%)	1 (1%)			
- Vocational						
- College/faculty						
- Undergraduate						1 (50%)
- Post graduate						
Marital status						
- never married	13 (100%)	25 (66%)	41 (56%)			1 (50%)
- married		10 (26%)	21 (29%)		1 (100%)	1 (50%)
- separated		2 (52%)	3 (4%)			
- widowed			0			
- divorced		1 (3%)	8 (11%)			
Occupation						
- unemployed	8 (62%)	22 (58%)	42 (58%)			1 (50%)
- self-employed	5 (38%)	8 (21%)	10 (14%)		1 (100%)	
- permanent		6 (16%)	1 (1%)			
- contractual		2 (5%)				1 (50%)
Monthly Income		Median: MRF6,000 (1,500-30,000)	Median: MRF5,000 (13-8,000)			MRF9,000

Table 2. Injecting Practices among IDU n Addu
BBS, 2008, Republic of Maldives

Sex	Male'			Female		
Age Group / Injecting Practices	15-19 years old (n=13)	20-24 years old (n=38)	25 years old and above (n=73)	15-19 years old (n=0	20-24 years old (n=1)	25 years old and above (n=4)
Age, first used drug	Median: 15 y.o. (11-18)	Median: 17 y.o. (9-22)	Median: 18 y.o. (10-43)		16y.o.	Median: 20 y.o. (17-23)
Age, first injected	Median: 17 y.o. (16-18)	Median: 20 y.o. (15-25)	Median: 25 y.o. (19-48)		18y.o.	Median: 29 y.o. (23-32)
Drugs used, last 12 months	Marijuana: 3 Heroin: 12 Pain killers: 2	Marijuana: 6 Heroin: 38 Cough syrup: 5 Cologne/after shave: 3 Pain killers: 3	Marijuana: 10 Heroin: 72 Cough syrup: 1 Cologne/after shave: 1 Pain killers: 4		Heroin: 1	Marijuana: 1 Crystal ice (Metamphetamine): 1 Heroin: 3
Drugs injected, last injection	Heroin: 13 (100%)	Heroin: 38 (100%)	Heroin: 72 (99%) Nalbuphine: 1 (1%)		Heroin: 1	Heroin: 4
Injected w/ previously used needle, last time	7/13 (54%)	11/38 (29%)	14/73 (19%)		0	¼ (25%)
Cleaned syringe before using	5/7 (71%)	4/11 (36%)	6/14 (43%)		N.A.	1/1 (100%)
What was used to clean the syringe	Water:2/5 (40%) Lemon:3/5 (60%)	Water: 2 (50%) Boiling: 1 (25%) Lemon: 1 (25%)	Water: 2/6 (33%) Lemon: 4/6 (67%)		N.A.	Lemon
If water was used to clean the syringe, was the same water used to clean the syringe w/ other IDU	Yes	Yes	Yes		N.A.	N.A.
Injected w/ other IDU, last time	10/13 (77%)	26/38 (68%)	40/73 (55%)		0	2/4(50%)
Pool funds together to purchase & divide drugs among themselves	9/10 (90%)	17/26 (65%)	21/40 (52%)		0	12 (50%)
Inject drugs, past 30 days	8/13 (62%)	23/38 (61%)	29/73 (40%)		1/1	¾ (75%)
Frequency of injection, past 30 days	Once/month: 1 (12%) 2-3X/month: 1 (12%) Once/week: 2 (25%) 2-3X/week: 2 (38%) Once/day: 1 (12%)	2-3X/month: 3 (13%) Once/week: 7 (30%) 2-3X/week: 3 (13%) Once/day: 9 (39%) 2-3X/day: 1 (4%)	Once/month: 4 (14%) 2-3X/month: 5 (17%) Once/week: 6 (21%) 2-3X/week: 8 (28%) 4-6X/week: 1 (3%) Once/day: 5 (17%)		Once a month	Once a week: 1 (33%) 2-3X/week: 1 (33%) 2-3X/day: 1 (33%)
Shared unsterile needle/syringe, past 30 days	2/8 (25%)	5/23 (22%)	9/29 (31%)		1/1	1/3 (33%)
Injected away from home, past 30 days	7/8 (88%)	21/23 (91%)	20/29 (69%)		0	3/3
Did not carry own syringe when IDU went	4/7 (57%)	5/21 (24%)	17/20 (85%)		0	3/3

Sex	Male'			Female		
Age Group **Injecting Practices**	**15-19 years old (n=13)**	**20-24 years old (n=38)**	**25 years old and above (n=73)**	**15-19 years old (n=0**	**20-24 years old (n=1)**	**25 years old and above (n=4)**
out of home, past 30 days						
Reasons for not carrying a syringe	Afraid of being caught (1) Available in injecting site (1)	Afraid of being caught (8) Available in injecting site (1) Co-injectors always have needled (3)	Afraid of being caught (11) Available in injecting site (1) Co-injectors always have needled (4)			Afraid of being caught (3)
Where/from whom was the syringe obtained	pharmacy	pharmacy	Pharmacy Drug dealer		Drug dealer	Pharmacy Drug dealer Health center NGO
Frequency needle/syringe is used before discarding	Once: 6 (50%) 2X: 4 (33%) 4X: 1 (8%)	1X: 25 (68%) 3X: 3 (8%) 4X and more: 9 (25%)	1X: 54 (75%) 2X: 11 (15%) 3X: 3 (4%) 4X and more: 2 (3%)		1X	1X: 2 (50%) 2X: 1 (25%) 3X: 1 (25%)
Injected in an IDU hang-out	7/13 (54%)	22/38 (58%)	44/73 (61%)		0	¼ (25%)
Injected in other atoll/country to inject w/ other IDUs	5/13 (38%)	16/38 (43%)	35/73 (48%)		1	¼ (25%)
Ever been imprisoned	6/13 (46%)	18/38 (47%)	49/73 (68%)		1	¼ (25%)
Used drugs while imprisoned	2/6 (33%)	14/18 (78%)	33/49 (67%)		0	0
Injected drugs while imprisoned	0	2/14 (14%)	5/33 (15%)		0	0
Received information on HIV/AIDS/STI while imprisoned	0	3/18 (17%)	7/49 (1%)		0	0
Ever been admitted in a drug rehabilitation center	1/13 (8%)	6/38 (16%)	18/73 (25%)		0	0
Used drugs while admitted in the drug rehabilitation center	1/1	1/6 (17%)	5/18 (28%)		0	0
Injected drugs while admitted in a drug rehabilitation center	0	0	0		0	0
Received information on HIV/AIDS/STI while admitted in a drug rehabilitation center	1/1	5/6 (83%)	11/18 (61%)		0	0

Table 3. Sexual Behavior among IDU in Addu
BBS, 2008, Republic of Maldives

Sex	Male'			Female		
Age Group Behavior	15-19 years old (n=13)	20-24 years old (n=38)	25 years old and above (n=73)	15-19 years old (n=0)	20-24 years old (n=1)	25 years old and above (n=4)
Consistent condom use w/ permanent/steady partner	0	1/23 (4%)	1/46 (2%)		0	0
Consistent condom use w/ sex worker	0	0	1/39 (3%)		0	0
Consistent condom use w/ client	0	0	0		0	0
Consistent condom use w/ non-regular partner	0	1/17 (6%)	0		0	0
Consistent condom use during anal sex w/ another male	0	0	0		N.A.	N.A.
Perceived self at risk for HIV	3/13 (23%)	16/38 (42%)	49/73 (67%)		1/1 (100%)	¼ (25%)
Reasons for being at risk for HIV Often change sex partners Don't always use condoms Use injected narcotics	 1/13 (8%) 1/13 (8%) 3/13 (23%)	 10/38 (26%) 15/38 (39%) 15/38 (39%)	 31/73 (42%) 45/73 (62%) 39/73 (53%)		 1/1 (100%)	 ¼ (25%)
Reasons for not perceiving himself/herself at risk for HIV Don't often change sex partners Always use condoms Never used injected narcotics Convinced partner is healthy No HIV in the Maldives Don't do anal sex Never/rarely have sex w/ sex workers Practicing religion protects one from HIV Others	 2/10 (20%) 1/10 (10%) 4/10 (40%) 2/10 (20%) 2/10 (20%)	 14/35 (40%) 7/35 (20%) 3/35 (9%) 6/35 (17%) 3/35 (9%)	 10/70 (14%) 13/70 (19%) 5/70 (7%) 4/70 (6%)			 1/3 (33%) 1/3 (33%) 2/3 (67%)
Experienced signs and symptoms of STI, last quarter	1/13 (8%)	4/38 (1%)	7/73 (10%)		0	2/4 (50%)
Treatment when one experienced signs and symptoms of STI Health practitioner Didn't do anything Self-medicate Others	 1/1	 2/4 (50%) 2/4 (50%)	 3/7 (43%) 3/7 (43%) 1/3 (14%)			 ½ (50%) ½ (50%)
Facilities sought for treatment Hospital Public facility Private clinic NGO Others		2/4 (50%)	1/7 (14%) 2/7 (29%)			

Table 4. Proportion among IDU in Addu who Knows Three Correct Ways of Transmitting HIV and Rejects the Misconceptions on HIV
BBS, 2008, Republic of Maldives

Sex	Male			Female		
Age Group / **Variables**	**15-19 years old (n=13)**	**20-24 years old (n=38)**	**25 years old and above (n=73)**	**15-19 years old (n=0)**	**20-24 years old (n=1)**	**25 years old and above (n=4)**
Sex w/ one & faithful partner reduces risks of HIV transmission	12/13 (90%)	23/38 (61%)	62/73 (85%)		0	¾ (75%)
Using condom prevents HIV	38%	40%	30%		0	25%
Can tell if someone has HIV by just looking at him/her	12/13 (92%)	36/38 (92%)	72/73 (97%)		100%	75%
Mosquitoes & other insect bites will transmit HIV	9/13 (69%)	28/38 (74%)	67/73 (92%)		0	¾ (75%)
Can get HIV by sharing food w/ someone who is infected	10/13 m(77%)	37/38 (97%)	70/73 (96%)		100%	100%

Table 5. Reached by HIV Prevention Program
BBS, 2008, Republic of Maldives

Sex	Male			Female		
Age Group / Variables	**15-19 years old (n=13)**	**20-24 years old (n=38)**	**25 years old and above (n=73)**	**15-19 years old (n=0)**	**20-24 years old (n=1)**	**25 years old and above (n=4)**
Know of a place to have a confidential HIV test	0	6/38 (16%)	13/73 (18%)		0	2/4 (50%)
Given condom, last 12 months	5/13 (38%)	16/38 (42%)	13 (18%)		0	¼ (25%)
Given unused needles/syringes	3/13 (23%)	3/38 (8%)	10/73 (14%)		0	¼ (25%)
Reached by HIV prevention program	31%	22%	17%		0	33%

Table 6. Reasons for HIV Tests, Last 12 Months
BBS, 2008, Republic of Maldives

Sex	Male			Female		
Age Group / Variables	15-19 years old (n=13)	20-24 years old (n=38)	25 years old and above (n=73)	15-19 years old (n=0)	20-24 years old (n=1)	25 years old and above (n=4)
Ever had an HIV test, last 12 months	1/13 (8%)	4/38 (11%)	13/73 (18%)		1/1	2/4 (50%)
Reasons for HIV testing, last 12 months						
Voluntary	1/1	2/4 (50%)	6/13 (46%)		1/1	½ (50%)
For employment		2/4 (50%)	5/13 (38%)			
Work permit for migrant workers						
Medical reasons			2/13 (15%)			½ (50%)
Overseas training/fellowship						
Return from overseas						
others						

APPENDIX C: FSW

Table1. Condom Use among FSW in Male' and Addu
BBS, 2008, Republic of Maldives

Sex	Male'			Addu			
Age Group	**15-19 years old (n=4)**	**20-24 years old (n=15)**	**25 years old and above (n=15)**	**10-14 years old (n=1)**	**15-19 years old (n=10)**	**20-24 years old (n=12)**	**25 years old and above (n=45)**
Consistent condom use w/ permanent/steady partner	0	1/6 (17%)	2/7 (29%)	0	0	0	0
Consistent condom use w/ client	0	2/15 (13%)	2/15 (13%)	0	0	1/12 (8%)	0
Consistent condom use w/ non-regular partner	0	1/9 (11%)	1/7 (14%)	0	0	0	1/30 (3%)

Table 2. Self-reported Signs and Symptoms of STI and Health-seeking Behavior among FSW in Male' and Addu
BBS, 2008, Republic of Maldives

Sex	Male'			Addu			
Age Group	**15-19 years old (n=4)**	**20-24 years old (n=15)**	**25 years old and above (n=15)**	**10-14 years old (n=1)**	**15-19 years old (n=10)**	**20-24 years old (n=12)**	**25 years old and above (n=45)**
Experienced signs and symptoms of STI, last quarter	2/4 (50%)	6/15 (40%)	1/15 (7%)	0	4/10 (40%)	1/12 (8%)	13/45 (29%)
Treatment when one experienced signs and symptoms of STI				N.A.			
Health practitioner	½ (50%)	3/6 (50%)	1/1 (100%)		¼ (25%)	1/1 (100%)	4/13 (31%)
Didn't do anything		2/6 (33%)			¾ (75%)		6/13 (46%)
Self-medicate							3/13 (23%)
Others							
Facilities sought for treatment				N.A.			
Hospital	2/2 (100%)	1/6 (17%)	1/1 (100%)		¼ (25%)	1/1 (100%)	3/13 (23%)
Public facility							
Private clinic		2/6 (33%)					1/13 (8%)
NGO							
Others							

Table 3. Proportion among FSW who Know Three Correct Ways of Transmitting HIV and Rejecting its Misconceptions in Male and Addu
2008, Republic of Maldives

***I suggest*: Percent of FSW With Correct Knowledge of Essential Facts of HIV**

Sex	**Male'**			**Addu**			
Age Group	**15-19 years old (n=4)**	**20-24 years old (n=15)**	**25 years old and above (n=15)**	**10-14 years old (n=1)**	**15-19 years old (n=10)**	**20-24 years old (n=12)**	**25 years old and above (n=45)**
Sex w/ one & faithful partner reduces risks of HIV transmission	¾ (75%)	12/15 (80%)	11/15 (73%)	1	5/10 (50%)	7/12 (58%)	34/45 (76%)
Using condom prevents HIV	38%	46%	61%	0	40%	29%	62%
Can tell if someone is infected w/ HIV by just looking at him/her	3 (75%)	14 (93%)	11 (79%)	0	7 (70%)	12 (100%)	42 (93%)
One can get HIV from mosquito bites	2 (50%)	8 (53%)	9 (64%)	0	4/10 (40%)	8/12 (67%)	27/45 (60%)
One can get HIV by sharing food w/ someone who is infected	4 (100%)	12 (60%)	11 (73%)	0	9/10 (90%)	10/12 (83%)	34/45 (76%)

Table 4. **Percent of FSW** Reached by HIV Prevention Programs Male and Addu
BBS, 2008, Republic of Maldives

Sex	**Mlae'**			**Addu**			
Age Group	**15-19 years old (n=4)**	**20-24 years old (n=15)**	**25 years old and above (n=15)**	**10-14 years old (n=1)**	**15-19 years old (n=1)**	**20-24 years old**	**25 years old and above (n=2)**
Know of a place to have a confidential HIV test	2 (50%)	7 (47%)	7 (47%	0	4/10 (40%)	3/12 (25%)	7/45 (16%)
Given condom, last 12 months	1 (25%)	8 (53%)	5 (33%)	0	2/10 (20%)	3/12 (25%)	7/45 (16%)
Reached by HIV prevention program	38%	50%	40%	0	30%	25%	16%

Table 5. Reasons for HIV Tests, Last 12 Months
BBS, 2008, Republic of Maldives

Sex	**Male'**			**Addu**			
Age Group	**15-19 years old (n=4)**	**20-24 years old (n=15)**	**25 years old and above (n=15)**	**10-14 years old (n=1)**	**15-19 years old (n=1)**	**20-24 years old**	**25 years old and above (n=2)**
Ever had an HIV test, last 12 months	0	7 (47%)	4 (27%)	0	1/10 (10%)	1/12 (8%)	1/45 (2%)
Reasons for HIV testing, last 12 months	N.A,			N.A.			
Voluntary		2/7 (24%)	2 (50%)		1/1	1/1	1/1
For employment			2 (50%)				
Work permit for migrant workers		4/7 (57%)					
Medical reasons							
Overseas training/fellowship		1/47 (14%)					
Return from overseas							
others							

APPENDIX D: MSM

Table1. Condom Use among MSM in Male' and Addu
BBS, 2008, Republic of Maldives

Site	Male'				Addu			
Age Group	**10-14 (n=1)**	**15-19 (n=1)**	**20-24 (n=23)**	**25 and above (n=44)**	**10-14 (n=1)**	**15-19 (n=5)**	**20-24 (n=20)**	**25 and above (n=31)**
Consistent condom use during anal sex w/ a paying male partner (as male sex worker)	0	0	1/6 (17%)	6/14 (43%)	0	½ (50%)	0	1/3 (33%)
Consistent condom use during anal sex w/ another male whom he paid for sex	0	0	0	5/10 (50%)	0	½ (50%)	0	0
Consistent condom use during consensual anal sex w/ another man	0	0	4/17 (24%)	6/24 (25%)	0	0	0	0
Consistent condom use during sex w/ women	0	1/1	1/19 (5%)	12%	0	8%	0	1%

Table 2. Self-reported Signs and Symptoms of STI and Health-seeking Behavior among MSM in Male' and Addu
BBS, 2008, Republic of Maldives

Site	Male'				Addu			
Age Group	**10-14 y.o. (n=1)**	**15-19 y.o. (n=1)**	**20-24 y.o. (n=23)**	**25 y.o. and above (n=44)**	**10-14 y.o. (n=1)**	**15-19 y.o. (n=5)**	**20-24 y.o. (n=20)**	**25 y.o. and above (n=31)**
Experienced signs and symptoms of STI, last quarter	0	1/1	5/23 (22%)	6/44 (14%)	0	1/5 (20%)	4/20 (20%)	2/31 (6%)
Treatment when one experienced signs and symptoms of STI **Health practitioner** **Didn't do anything** **Self-medi cate** **Others**	N.A.	 1/1	 1/5 (20%) 3/5 (60%) 1/5 (20%)	 1/6 (17%) 5/6 (83%)	N.A.	 1/1	 2/4 (50%)	 ½ (50%) ½ (50%)
Facilities sought for treatment **Hospital** **Public facility** **Private clinic** **NGO** **Others**			1/5(20%)					

Table 3. Proportion among MSMwho Knows Three Correct Ways of Transmitting HIV and Rejecting its Misconceptions in Male and Addu
BBS, 2008, Republic of Maldives

Site	Male'				Addu			
Age Group	**10-14 y.o. (n=1)**	**15-19 y.o. (n=1)**	**20-24 y.o. (n=23)**	**25 y.o. and above (n=44)**	**10-14 y.o. (n=1)**	**15-19 y.o. (n=5)**	**20-24 y.o. (n=20)**	**25 y.o. and above (n=31)**
Sex w/ one & faithful partner reduces risks of HIV transmission	1/1	1/1	12/23 (52%)	32/44 (73%)	0	4/5 (80%)	11/20 (55%)	17/31 (55%)
Using condom prevents HIV	0	1/1	48%	48%	0	40%	55%	45%
Can tell if someone has HIV by just looking at him/her	100%	100%	20/23 (87%)	38/44 (86%)	0	0	1/20 (5%)	1/31 (3%)

Site	Male'				Addu			
Age Group	**10-14 y.o. (n=1)**	**15-19 y.o. (n=1)**	**20-24 y.o. (n=23)**	**25 y.o. and above (n=44)**	**10-14 y.o. (n=1)**	**15-19 y.o. (n=5)**	**20-24 y.o. (n=20)**	**25 y.o. and above (n=31)**
Mosquitoes & other insect bites will transmit HIV	1/1	0	15/23 (65%)	29/44 (66%)	1/1	5/5	14/20 (70%)	29/31 (94%)
Can get HIV by sharing food w/ someone who is infected	1/1	1/1	19/23 (83%)	38/44 (86%)	1/1	4/5 (80%)	14/20 (70%)	27/31 (87%)

Table 4 Reached by HIV Prevention Program among MSM in Male and Addu
BBS, 2008, Republic of Maldives

Site	Male'				Addu			
Age Group	**10-14 y.o. (n=1)**	**15-19 y.o. (n=1)**	**20-24 y.o. (n=23)**	**25 y.o. and above (n=44)**	**10-14 y.o. (n=1)**	**15-19 y.o. (n=5)**	**20-24 y.o. (n=20)**	**25 y.o. and above (n=31)**
Know of a place to have a confidential HIV test	1/1	1/1	11/23 (48%)	17/44 (39%)	0	0	0	1 (3%)
Given condom, last 12 months	0	0	1/23 (4%)	5/44 (11%)	0	0	5/20 (25%)	0
Reached by HIV prevention program	50%	50%	26%	25%	0	0	12%	2%

Table 5. Reasons for HIV Tests, Last 12 Months
BBS, 2008, Republic of Maldives

Site	Male'				Addu			
Age Group	**10-14 y.o. (n=1)**	**15-19 y.o. (n=1)**	**20-24 y.o. (n=23)**	**25 y.o. and above (n=44)**	**10-14 y.o. (n=1)**	**15-19 y.o. (n=5)**	**20-24 y.o. (n=20)**	**25 y.o. and above (n=31)**
Ever had an HIV test, last 12 months	1/1	0	4/23 (17%)	6/44 (14%)	0	0	1/20 (5%)	0

APPENDIX E: Youth

Table 1. Demographic Profile of Youth in Male' and Laamu
BBS, 2008, Republic of Maldives

Sites	Male'				Laamu			
Socio-demographic variables	Male		Female		Male		Female	
Age Group	15-19 years old n=120	20-24 years old n=108	15-19 years old n=121	20-24 years old n=111	15-19 years old n=44	20-24 years old n=19	15-19 years old n=50	20-24 years old n=32
Education								
- never	1 (1%)	0	2 (2%)	0	0	0	0	0
- grade 1-7	8 (7%)	6 (6%)	4 (3%)	6 (5%)	6 (14%)	6 (33%)	6 (12%)	4 (13%)
- grade 8-10	59 (49%)	13 (11%)	48 (40%)	6 (5%)	18 (42%)	3 (17%)	23 (47%)	2 (6%)
- GCE O' level	36 (30%)	53 (49%)	49 (41%)	76 (68%)	17 (40%)	9 (50%)	20 (41%)	25 (81%)
- High school	16 (13%)	17 (16%)	16 (13%)	8 (7%)	2 (5%)			
- Vocational		2 (2%)	0	2 (2%)				
- College/faculty		9 (8%)	2 (2%)	7 (6%)				
- Undergraduate		7 (6%)		5 (4%)				
- Post graduate		1 (1%)		1 (1%)				
Marital status								
- never married	119 (99%)	87 (81%)	109(90%)	57 (37%)	44 (100%)	12 (67%)	46 (92%)	6 (19%)
- married	1 (1%)	17 (16%)	11 (9%)	50 (45%)		6 (33%)	4 (8%)	23 (72%)
- separated		1 (1%)	0	0				0
- widowed		0	1 (1%)	0				0
- divorced		3 (3%)		4 (4%)				3 (9%)
Occupation								
- student	71 (59%)	24 (22%)	86 (71%)	19 (17%)	19 (43%)	1 (5%)	25 (50%)	0
- working	21 (18%)	55 (51%)	16 (13%)	44 (40%)	16 (36%)	16 (84%)	13 (26%)	10 (31%)
- working student	5 (4%)	10 (9%)	1 (1%)	5 (4%)	0	0	0	0
- doing housework, own family	2 (2%)	1 (1%)	5 (4%)	10 (9%)	0	1 (5%)	4 (8%)	15 (47%)
- unpaid family member								
- unemployed, job-seeking	1 (1%)	0	0	1 (1%)	0	0	0	2 (6%)
hanging out	2 (2%)	4 (4%)	1 (1%)	4 (4%)	2 (4%)	0	0	1 (3%)
	18 (15%)	14 (15%)	12 (10%)	28 (25%)	7 (16%)	1 (5%)	8 (16%)	4 (12%)

Table 2. Proportion among Youth with Risk Behavior in Male' and Laamu
BBS, 2008, Republic of Maldives

Sites	Male'				Laamu			
Risk Behavior	Male		Female		Male		Female	
Age Group	15-19 years old n=120	20-24 years old n=108	15-19 years old n=121	20-24 years old n=111	15-19 years old n=44	20-24 years old n=19	15-19 years old n=50	20-24 years old n=32
Ever had sex	25 (21%)	44 (41%)	22 (18%)	65 (59%)	18 (41%)	12 (90%)	11 (22%)	27 (84%)
Age of sexual debut	17 y.o. (13-19)	20 y.o. (13-24)	17 y.o. (12-19)	20 y.o. (16-24)	16 y.o. (11-18)	18 y.o. (14-22)	17 y.o. (14-19)	19 (15-22)
Sex partners during sexual debut								
- wife/husband	1 (4%)	17 (34%)	8 (40%)	70 (77%)		3 (18%)	2 (18%)	20 (74%)
- girlfriend	22 (88%)	21 (48%)			11 (61%)	14 (82%)		
- boyfriend			8 (40%)	12 (18%)			7 (64%)	5 (18%)
- sex worker	0	1 (2%)	0				0	
- forced sex (abuse)	0	1 (2%)	1 (5%)				1 (9%)	
- friend	2 (8%)	3 (7%)	1 (5%)		7 (39%)		0	1 (4%)
Pre-marital sex	24 (20%)	26 (24%)	12 (10%)	16 (14%)	18 (41%)	15 (88%)	8 (16%)	8 (25%)
Condom use during pre-marital sex	8 (33%)	14 (54%)	1 (8%)	3 (19%)	6 (33%)	6 (40%)	4 (50%)	3 (38%)
Number of sex partners, last 12	2	1 (1-4)		1	Md 4	5 (2-10)	2	1

Sites	Male'				Laamu			
Risk Behavior	Male		Female		Male		Female	
months								
Group sex	0	5 (5%)	0	0	8 (18%)	4 (24%)	0	0
Sex w/ sex worker	0	7 (6%)	0	1 (1%)	0	0	0	0
Number of sex workers, past month	N.A.	5 (3-13)	N.A.	1	N.A.	N.A.	N.A.	N.A.
Sold sex	0	0	0	0	1 (2%)	0	1 (2%)	0
Sex w/ permanent partner	11%	32 (30%)	18 (15%)	53 (48%)	8 (18%)	12 (63%)	8 (16%)	25 (78%)
Sex w/ non-regular partner	4%	7 (6%)	0	2 (2%)	2 (5%)	8 (47%)	1 (2%)	2 (7%)
Sex w/ another male	0	1 (1%)	N.A.	N.A.	0	2 (11%)	N.A.	N.A.
Consensual anal sex w/ another male	N.A.	0	N.A.	N.A.	N.A.	0	N.A.	N.A.
Consistent condom use								
w/ sex worker	0	3 (42%)	0	0	0	0	0	0
w/ client	0	0	0	0	0	0	0	0
w/ permanent partner	5 (38%)	0	1 (6%)	1 (2%)	0	0	2 (25%)	0
w/ non-regular partner	20%	2 (28%)	0	0	1 (50%)	4 (50%)	0	4 (50%)
during anal sex w/ another male		0	N.A.	N.A	N.A.	0	N.A.	N.A.
Age when information on sex was sought	14 y.o. (10-18)	15 y.o. (8-24)	15 y.0. (10-23)	16 y.o. (12-22)	15 y.o. (8-19)	17 y.o. (11-20)	16 y.o. (10-17)	18 y.o. (12-20)
Ever injected drugs	0	1 (1%)	0	0	0	0	0	0
w/ partner who injects	0	4 (4%)	2 (2%)	2 (2%)	2 (5%)	0	2 (4%)	0
Perceived self at risk for HIV	14 (12%)	6 (6%)	6 (5%)	7 (6%)	8 (19%)	3 (16%)	3 (6%)	4 (12%)
Reasons for being at risk for HIV								
Often change sex partners	0	2 (33%)	1 (17%)	1 (1%)		2 (11%)		
Don't always use condoms	2 (20%)	1(17%)	1 (17%)	0	1 (12%)			1 (3%)
Use injected narcotics	0	0	0	0				
Others	6 (60%)	3 (50%)	3 (50%)	5 (4%)				
Reasons for not perceiving himself/herself at risk for HIV								
Don't often change sex partners	24	36	10	34	24	2		6
Always use condoms	6	3	3	1	2	1		
Never used injected narcotics	9	7	0	0	21	9	2	
Convinced partner is healthy	2	8	5	14	1		3	
No HIV in the Maldives	2	1	0	0	0			
Don't do anal sex	1	1	4	0	2			
Never/rarely have sex w/ sex workers	6	2	3	3	0			
Practicing religion protects one from HIV	26	22	15	6	5		3	2
Others	39 (never had sex, not engaged in risky activities)	30 (never had sex, not engaged in risky activities, careful)	30 (never had sex, not engaged in risky activities, careful)	49 (never had sex, not engaged in risky activities, careful)			15 (never had sex, not engaged in risky activities)	1 (never had sex)
Experienced signs and symptoms of STI, last quarter	15 (13%)	10 (9%)	34 (28%)	26 (24%)	12 (27%)	2 (11%)	11 (22%)	8 (75%)
Treatment when one experienced signs and symptoms of STI								
Health practitioner	5 (33%)	5 (50%)	14 (41%)	16 (64%)	4 (33%)		3 (27%)	4 (50%)
Didn't do anything	9 (60%)	5 (50%)	17 (50%)	9 (36%)	5 (42%)	2 (100%)	7 (64%)	4 (50%)
Self-medicate	1 (7%)		2 (6%)		3 (25%)		1 (9%)	
Others			1 (3%)					
Facilities sought for treatment						N.A.		
Hospital	5 (33%)	5 (50%)	10 (29%)	11 (69%)	4 (33%)		3 (27%)	4 (50%)
Public facility			0	0				
Private clinic			4 (12%)	4 (25%)				
NGO			0	1 (6%)				
Others			1 (3%)	0				

Table 3. Proportion among Youth who Knows Three Correct Ways of Transmitting HIV and Rejects the Major Misconceptions on HIV
2008, Republic of Maldives

Sites	Male'				Laamu			
Variables	Male		Female		Male		Female	
Age Group	15-19 years old n=120	20-24 years old n=108	15-19 years old n=121	20-24 years old n=111	15-19 years old n=44	20-24 years old n=19	15-19 years old n=50	20-24 years old n=32
Sex w/ one & faithful partner reduces risks of HIV transmission	85 (71%)	80 (74%)	69 (57%)	83 (77%)	26 (59%)	18 (95%)	33 (66%)	26 (81%)
Using condom prevents HIV	42%	34%	28%	31%	56%	66%	33%	30%
Can tell if someone has HIV by just looking at him/her	105 (88%)	199 (91%)	107 (88%)	96 (87%)	39 (89%)	17 (90%)	44 (80%)	27 (84%)
Mosquitoes & other insect bites will transmit HIV	53 (44%)	132 (60%)	66 (54%)	69 (62%)	13 (30%)	5 (26%)	27 (54%)	19 (59%)
Can get HIV by sharing food w/ someone who is infected	89 (74%)	199 (91%)	99 (82%)	100 (90%)	33 (75%)	13 (68%)	37 (74%)	28 (88%)

Table 4. Reached by HIV Prevention Program
BBS, 2008, Republic of Maldives

Sites	Male'				Laamu			
Variables	Male		Female		Male		Female	
Age Group	15-19 years old n=120	20-24 years old n=108	15-19 years old n=121	20-24 years old n=111	15-19 years old n=44	20-24 years old n=19	15-19 years old n=50	20-24 years old n=32
Know of a place to have a confidential HIV test	45 (38%)	48 (44%)	41 (34%)	47 (42%)	3 (7%)	5 (26%)	7 (86%)	16 (50%)
Given condom, last 12 months	27 (22%)	34 (32%)	4 (4%)	25 (22%)	14 (32%)	10 (53%)	2 (4%)	6 (19%)
Reached by HIV prevention program	30%	38%	15%	32%	20%	40%	45%	38%

Table 5. Reasons for HIV Tests among Youth in Male' and Laamu, Last 12 Months
BBS, 2008, Republic of Maldives

Sites	Male'				Laamu			
Variables	Male		Female		Male		Female	
Age Group	15-19 years old n=120	20-24 years old n=108	15-19 years old n=121	20-24 years old n=111	15-19 years old n=44	20-24 years old n=19	15-19 years old n=50	20-24 years old n=32
Ever had an HIV test, last 12 months	9 (8%)	21 (19%)	2 (2%)	17 (15%)	0	4 (21%)	0	13 (41%)
Reasons for HIV testing, last 12 months					N.A.		N.A.	
Voluntary	4 (44%)	2 (10%)	1 (50%)	2 (12%)		2 (50%)		4 (31%)
For employment	2 (22%)	4 (20%)		1 (6%)				
Work permit for migrant workers	0	0		0				
Medical reasons	2 (22%)	2 (10%)	1 (50%)	7 (41%)		2 (50%)		5 (38%)
Overseas training/fellowship	0	3 (15%)		2 (12%)				
Return from overseas	0	3 (15%)		1 (6%)				
others	1 (1%)	6 (30%)		4 (24%)				4 (31%)

Table 6. HIV Prevention Programs
BBS, 2008, Republic of Maldives

Sites	Male'				Laamu			
Variables	Male		Female		Male		Female	
Age Group	15-19 years old n=120	20-24 years old n=108	15-19 years old n=121	20-24 years old n=111	15-19 years old n=44	20-24 years old n=19	15-19 years old n=50	20-24 years old n=32
Received information on HIV/STI, last 12 months	65 (54%)	72 (67%)	70 (58%)	70 (58%)	17 (39%)	7 (37%)	17 (34%)	12 (38%)
Sources of Information on HIV/STI								
TV	29	53	31	35	11	2	6	5
Radio	6	18	10	10	5	0	5	4
Newspaper	2	13	7	12	1	1	1	3
Pamphlets	10	7	6	7	1	1	5	3
Posters	2	3	2	4	0	1	0	0
Clinics	0	1	1	6	0	0	0	0
Hospitals	5	4	4	9	1	1	2	2
NGO	0	1	0	3	0	0	1	1
Workplace	1	1	2	2	0	0	0	0
School	19	19	31	4	4	0	4	0
Internet	4	9	9	10	1	0	1	0
Friends	7	9	5	3	6	1	3	0
Families	0	0	2	3	1	0	0	0
others	2 (counselor, workshop)	3	4 (lecture, ore-cana, youth)	6	0	0	0	1
Would like to have more information on HIV/STI	109 (91%)	85 (79%)	104 (86%)	90 (81%)	40 (91%)	16 (84%)	47 (96%)	29 (91%)
Preferred sources of information on HIV/STI								
TV	51	39	44	44	18	2	26	11
Radio	22	16	19	20	1	2	7	5
Newspaper	13	10	12	14	7	4	9	3
Pamphlets	12	19	19	16	7	1	7	7
Posters	14	8	9	10	2	1	1	1
Clinics	10	12	6	11	1	0	4	1
Hospitals	20	21	15	22	0	3	10	6
NGO	8	7	6	7	9	0	1	0
Workplace	9	7	4	7	0	0	1	0
School	21	11	14	8	1	0	3	1
Internet	35	28	26	32	12	7	7	5
Friends	17	10	12	15	8	2	3	0
Families	8	6	6	11	3	0	2	0
others	7	7	9	5	0	0	1	0
Given condoms, last 12 months	27 (22%)	34 (32%)	4 (3%)	25 (22%)	14 (32%)	10 (53%)	2 (4%)	6 (19%)
Sources of condoms								
Outreach, government								
NGO				1				
Drop-in centers								
Pharmacy	1					3		
others	11 (clinic, friends, supermarket)	7 (friends)	1 (friend)	6 (friends, gift, health center)	2 (friends)			
Would like to have better access to condoms	46 (39%)	56 (52%)	30 (25%)	38 (34%)	24 (54%)	12 (63%)	16 (32%)	13 (42%)
Most convenient place to get condoms								
Clinic								
Pharmacy	8	11	6	16	2	3	18	7
NGO	90	78	55	60	21	14	25	20
Vending machine	0	0		0	1	0		1
Supermarket	1	3		1	0	0		1
Toilet	2	1		1	2	0		0
Friends	2	1		0	0	0		0
others		3	1	1	5	1		0
		0	2	1	0	0	8	0

Table 7. Exposure to Mass Media among Youth in Male' and Laamu
BBS, 2008, Republic of Maldives

Sites	Male'				Laamu			
Variables	Male		Female		Male		Female	
Age Group	15-19 years old n=120	20-24 years old n=108	15-19 years old n=121	20-24 years old n=111	15-19 years old n=44	20-24 years old n=19	15-19 years old n=50	20-24 years old n=32
Watched movies	98%	98%	96%	95%	100%	90%	100%	100%
Watched Television, last 12 months	92%	94%	93%	94%	96%	100%	96%	91%
Listened to radio, last 12 months	80%	84%	91%	84%	84%	84%	84%	88%
Read newspaper, last 12 months	77%	92%	67%	78%	80%	90%	68%	72%
Accessed internet for HIV/STI information	85%	87%	63%	75%	46%	47%	24%	25%

APPENDIX F: Sea Farers and Construction Workers

Table1. Condom Use among Sea Farers and Construction Workers
BBS, 2008, Republic of Maldives

Variables	Sea Farers	Construction Workers
Consistent condom use w/ FSW	4/6 (67%)	0
Consistent condom use w/ permanent/steady partner	3/78 (4%)	2/50 (4%)
Consistent condom use w/ non-regular partner	¾ (75)	¼ (25%)
Consistent condom use during anal sex w/ another man	0	0

Table 2. Self-reported Signs and Symptoms of STI and Health-seeking Behavior among Sea Farers & Construction Workers
BBS, 2008, Republic of Maldives

Variables	Sea Farers	Construction Workers
Experienced signs and symptoms of STI, last quarter	3/99 (3%)	4/101 (4%)
Treatment when one experienced signs and symptoms of STI **Health practitioner** **Didn't do anything** **Self-medicate** **Others**	3/3 (100%)	¾ (75%)
Facilities sought for treatment **Hospital** **Public facility** **Private clinic** **NGO** **Others**	2/3 (67%) 1/3 (33%)	¼ (25%) 2/4 (50%)

Table 3. Proportion among Sea Farers and Construction Workers who Know Three Correct Ways of Transmitting HIV and Rejecting its Misconceptions
2008, Republic of Maldives

Varibales	Sea Farers	Construction Workers
Sex w/ one & faithful partner reduces risks of HIV transmission	94%	52%
Using condom prevents HIV	46%	16%
Can tell if someone has HIV by just looking at him/her	79%	43%
Mosquitoes & other insect bites will transmit HIV	74%	32%
Can get HIV by sharing food w/ someone who is infected	95%	38%

Table 4. Reached by HIV Prevention Program among Sea Farers & Construction Workers
BBS, 2008, Republic of Maldives

Varibales	Sea Farers	Construction Workers
Know of a place to have a confidential HIV test	46%	26%
Given condom, last 12 months	33%	9%
Reached by HIV prevention program	40%	18%

Table 5. Reasons for HIV Tests among Sea Farers and Construction Workers, Last 12 Months
BBS, 2008, Republic of Maldives

Varibales	Sea Farers	Construction Workers
Ever had an HIV test, last 12 months	67%	31%
Reasons for HIV testing, last 12 months		
Voluntary		
For employment	2/66 (3%)	1/31 (3%)
Work permit for migrant workers	57/66 (86%)	9/31 (29%) 17/31 (55%)
Medical reasons		
Overseas training/fellowship	2/66 (3%) 1/66 (2%)	3/31 (10%) 1/31 (3%)
Return from overseas		
others		

APPENDIX G: Resort Workers

Table1. Condom Use among Resort Workers
BBS, 2008, Republic of Maldives

Sex	Local			Expatriate		
Age Group	**Total**	**24 y.o. and below**	**25 years old and above**	**Total**	**24 y.o. and below**	**25 y.o. and above**
Consistent condom use w/ FSW	4/6 (67%)	2/2 (100%)	2/4 (50%)	3/11 (27%)	1/1	2/10 (20%)
Consistent condom use w/ permanent/steady partner	14/35 (40%)	5/14 (36%)	9/21 (43%)	10/19 (53%)	1/1	9/18 (50%)
Consistent condom use w/ non-regular partner	14/35 (40%)	5/14 (36%)	9/21 (43%)	10/19 (53%)	1/1	9/18 (50%)
Consistent condom use during anal sex w/ another man	0	0	0	1/3 (33%)	0	1/3 (33%)

Table 2. Self-reported Signs and Symptoms of STI and Health-seeking Behavior among Resort Workers
BBS, 2008, Republic of Maldives

Sex	Local			Expatriate		
Age Group	**Total**	**24 y.o. and below**	**25 years old and above**	**Total**	**24 y.o. and below**	**25 y.o. and above**
Experienced signs and symptoms of STI, last quarter	17/236 (7%)	5/62 (8%)	12/174 (7%)	14/224 (6%)	1/11 (9%)	13/213 (6%)
Treatment when one experienced signs and symptoms of STI						
Health practitioner	5/17 (29%	1/5 (20%)	4/12 (33%)	5/14 (36%)	0	5/13 (38%)
Didn't do anything	10/17 (59%)	4/5 (80%)	6/12 (50%)	7/14 (50%)	1/1	6/13 (46%)
Self-medicate	1/17 (6%)					
Others	1/17 (6%)	0	1/12 (8%)	2/14 (14%	0	2/13 (15%)
		0	1/12 (8%)		0	0
Facilities sought for treatment						
Hospital	4/17 (24%)		4/12 (33%)	3/14 (21%)		3/13 (23%)
Public facility	1/17 (6%)					
Private clinic	1/17 (6%)		1/12 (8%)	1/14 (7%)		1/13 (8%)
NGO				1/14 (7%)		
Others						1/13 (8%)

Table 3. Proportion among Resort Workers Who Know Three Correct Ways of Transmitting HIV and Rejecting its Misconceptions
BBS, 2008, Republic of Maldives

Sex	Local			Expatriate		
Age Group	**Total**	**24 y.o. and below**	**25 years old and above**	**Total**	**24 y.o. and below**	**25 y.o. and above**
Sex w/ one & faithful partner reduces risks of HIV transmission	208/236 (88%)	53/62 (86%)	155/174 (89%)	168/224 (75%)	7/11 (64%)	161/213 (76%)
Using condom prevents HIV	45%	48%	44%	50%	64%	48%
Can tell if someone has HIV by just looking at him/her	220 (93%)	57/62 (92%)	163/174 (94%)	173/224 (77%)	9 (82%)	164/213 (77%)
Mosquitoes & other insect bites will transmit HIV	155/236 (66%)	31/62 (50%)	124/174 (71%)	98/224 (44%)	6/11 (54%)	92/213 (43%
Can get HIV by sharing food w/ someone who is infected	214/236 (91%)	57/62 (92%)	157/174 (90%)	160/224 (72%)	7/11 (64%)	153/213 (72%)

Table 4. Reached by HIV Prevention Program among Resort Workers
BBS, 2008, Republic of Maldives

Sex	Local			Expatriate		
Age Group	**Total**	**24 y.o. and below**	**25 years old and above**	**Total**	**24 years old and below**	**25 y.o. and above**
Know of a place to have a confidential HIV test	88/236 (37%)	20/62 (32%)	68/174 (39%)	58/224 (26%)	3/11 (27%)	55/213 (26%)
Given condom, last 12 months	99/236 (42%)	35/62 (56%)	11/174 (6%)	50/224 (22%)	6/11 (54%)	44/213 (21%)
Reached by HIV prevention program	40%	44%	22%	24%	42%	24%

Table 5. Reasons for HIV Tests among Resort Workers, Last 12 Months
BBS, 2008, Republic of Maldives

Sex	**Local**			**Expatriate**		
Age Group	**15-19 years old**	**20-24 years old**	**25 years old and above**	**10-14 years old**	**15-19 years old**	**20-24 years old**
Ever had an HIV test, last 12 months	30/236 (13%)	8/62 (13%)	22/174 (13%	62/224 (28%)	2/11 (18%)	60/213 (28%)
Reasons for HIV testing, last 12 months						
Voluntary	22%	25%	23%	27%	50%	2%
For employment	10%	12%	9%	44%	50%	45%
Work permit for migrant workers				32%		33%
Medical reasons	45%	50%	45%	8%		8%
Overseas training/fellowship						
Return from overseas		12%	27%	6%		7%
others	23%					

APPENDIX H: BIBLOGRAPHY

References Cited

1. National HIV/AIDS and STI Surveillance Guidelines. Department of Public Health, Ministry of Health. Republic of Maldives.

2. National HIV/AIDS Council, Ministry of Health of the Maldives, UN Theme Group on HIV/AIDS. The HIV AIDS Situation in the Republic of Maldives in 2006.

3. Ministry of Planning and National Development. Statistical Yearbook of Maldives. 2007.

4. Ministry of Tourism and Civil Aviation. Maldives Third Tourism Master Plan. 2007-2011.

5. WHO, CDC, USAID, UNAIDS. Guidelines for Using HIV Testing Technologies in Surveillance: Selection, Evaluation and Implementation.

6. Brown T., Reddy A., and Peerapatanapokin W., Report of the Commission on AIDS in Asia.

Other References

1. Amala Reddy, PhD, Regional Programme Advisor, Strategic Information at the UNAIDS Regional Support Team for Asia and the Pacific, Bangkok, Thailand. Personal communication.

2. ASEAN Regional Workshop. Designing Effective Second Generation Surveillance Systems and Interpreting the Data for Use in HIV & AIDS Policy and Planning. February 2006.

3. Aura C. Corpuz, MD, MPH, PHSAE. Sample Size Determination, Lecture for the Field Epidemiology Training Program (FETP), Philippines, Department of Health. 2007.

4. Department of Public Health, Republic of Maldives. HIV/AIDS and STI Case Reports.

5. Dorothy May Agdamag, MD, MSc, PhD., Advisor, STD/AIDS/STI Cooperative Central Laboratory (SACCL), San Lazaro Hospital, Department of Health, Philippines. Personal communication.

6. Elizabeth Pisani. Epidemiologist. Personal communication.

7. 2007 Estimates of People Living with HIV in the Philippines. Department of Health, Philippines.

8. Gudrun Nadol, HIV and AIDS Specialist, UNICEF, Philippines. Personal communication.

9. 2005 Integrated HIV/AIDS Behavioral and Serologic Surveillance (IHBSS). Department of Health, Philippines.

10. Maldives Police Service. Drug Enforcement Unit. Statistics on Drug-related Cases. 2007.

11. Ministry of Employment. Major Countries Generating Expatriate Employment in the Maldives, 2003-2007.

12. Ministry of Health, Lao People's Democratic Republic. Second Generation Surveillance 2nd Round on HIV, STI and Behavior. 2004

13. Ministry of Health, Republic of Maldives. Survey Reports, Policies and Plans, Health Reports and Statistics, Guidelines and Standards, Other Reports and Documents. Digital Publications, 2008.

14. Ministry of Health, Republic of Maldives. Sexually Transmitted Infections. Enhancing the Response to HIV/AIDS in the Maldives.

15. Mohamed Rameez. National AIDS Program Director, Republic of Maldives. Personal communication.

16. Ofelia Saniel, PhD. Chairman, Biostatistics .and Epidemiology. College of Public Health, University of the Philippines. Personal communication.

17. Paula Bulancea, HIV and AIDS Specialist, UNICEF, Republic of Maldives. Personal communication

18. Pravin Kumar Nair, MD. Microbiologist, Indira Gandhi Memorial Hospital. Personal communication.

19. World Health Organization. Sample size Determination Manual.

20. Centers for Disease Control and Prevention. Right Size for Sample Size Determination.

21. Susan Leano, Head, Medical Technologist. STD/AIDS/STI Cooperative Central Laboratory (SACCL), San Lazaro Hospital, Department of Health, Philippines. Personal communication.

22. World Health Organization Regional Offices for South-East Asia and Western Pacific, New Dellhi and Manila. HIV/AIDS Clinical Staging, HIV/AIDS Case Definitions and Use of Rapid HIV Tests for Diagnosis and Surveillance. 1-3 June 2005.

23. United Nations Office on Drugs and Crime. Legal and Policy Concerns related to IDU Harm Reduction in SAARC Countries.

24. www.respondentdrivensampling.org/reports.

APPENDIX I: Indicators for the GFATM, 2008 BBS UNGASS

1. **Percentage who both correctly identify ways of preventing sexual transmission of HIV and who reject major misconceptions about HIV transmission**

Group & Site	Total	Male	Female
FSW (Male')			69%
FSW (Addu)			69%
MSM (Male')		71%	
MSM (Addu)		72%	
IDU (Male')	80%	80%	75%
IDU (Addu)	67%	77%	64%
Youth (Male')	66%	67%	66%
Youth (Laamu)	65%	64%	63%
Sea Farers		78%	
Resort Workers		70%	
Construction Workers		36%	

2. **Condom Use with Most Recent Client**

Group & Site	Total	Male	Female
FSW (Male')			30%
FSW (Addu)			11%
MSM (Male')		60%	
MSM (Addu)		35%	
IDU (Male')	44%	46%	25%
IDU (Addu)	20%	18%	12%
Youth (Male')	12%	15%	1%
Youth (Laamu)	17%	11%	22%
Sea Farers		24%	
Resort Workers		42%	
Construction Workers		21%	

3. **Percentage of IDU Reporting Use of Sterile Injecting Equipment the Last Time They Injected Drugs**

Group & Site	Total	Male	Female
IDU (Male')	21%	19%	100%
IDU (Addu)	25%	25%	25%

Reached with HIV Prevention Programme

Group & Site	Total	Male	Female
FSW (Male')			44%
FSW (Addu)			20%
MSM (Male')		54%	
MSM (Addu)		37%	
IDU (Male')	31%	30%	50%
IDU (Addu)	19%	18%	27%
Youth (Male')	30%	34%	25%
Youth (Laamu)	22%	26%	19%
Sea Farers		40%	
Resort Workers		32%	
Construction Workers		18%	

4. **HIV Testing in the Last 12 Months**

Group & Site	Total	Male	Female
FSW (Male')			32%
FSW (Addu)			4%
MSM (Male')		16%	
MSM (Addu)		2%	
IDU (Male')	18%	16%	75%
IDU (Addu)	16%	14%	60%
Youth (Male')	11%	13%	8%
Youth (Laamu)	12%	6%	16%
Sea Farers		67%	
Resort Workers		20%	
Construction Workers		31%	

National AIDS Program

1. **Percentage who Use Condom Consistently**

Group & Site	Total	Male	Female
FSW (Male')			
Condom use w/ steady partner			20%
Condom use w/ a client			12%
Condom use w/ a non-regular partner			12%
FSW (Addu)			
Condom use w/ steady partner			0
Condom use w/ a			2%

Group & Site	Total	Male	Female
client			
Condom use w/ a non-regular partner			2%
MSM (Male')			
Condom use w/ a man		34%	
Condom use w/ a male client (as sex worker)		35%	
Condom use w/ a woman		18%	
MSM (Addu)			
Condom use w/ a man		12%	
Condom use w/ a male client (as sex worker)		22%	
Condom use w/ a woman		2%	
IDU (Male')			
Condom use w/ permanent partner	7%	6%	33%
Condom use w/ FSW	18%	19%	
Condom use w/ a client (as sex worker)	10%	12%	0
Condom use w/ a non-regular partner	10%	10%	0
Condom use during anal sex w/ a man	22%	33%	
IDU (Addu)			
Condom use w/ permanent partner	4%	4%	0
Condom use w/ FSW	2%	2%	
Condom use w/ a client (as sex worker)	0	0	0
Condom use w/ a non-regular partner	2%	2%	0
Condom use during anal sex w/ a man	0	0	
Youth (Male')			
Condom use w/ sex worker	30%	33%	100%

Group & Site	Total	Male	Female
Condom use w/ a client	0	0	0
Condom use w/ permanent partner	6%	11%	3%
Condom use w/ a non-regular partner	21%	25%	0
Condom use during anal sex w/ a man	0	0	
Youth (Laamu)			
Condom use w/ sex worker	0	0	0
Condom use w/ a client	0	0	0
Condom use w/ permanent partner	6%	0	9%
Condom use w/ a non-regular partner	38%	50%	0
Condom use during anal sex w/ a man	0	0	
Sea Farers			
Condom use w/ FSW		67%	
Condom use w/ permanent partner		4%	
Condom use w/ a non-regular partner		75%	
Condom use w/ another male partner		0	
Resort Workers			
Condom use w/ FSW		41%	
Condom use w/ permanent partner		8%	
Condom use w/ a non-regular partner		44%	
Condom use w/ another male partner		0	
Construction Worker			
Condom use w/ FSW		0	
Condom use w/		4%	

Group & Site	Total	Male	Female
permanent partner			
Condom use w/ a non-regular partner		25%	
Condom use w/ another male partner		0	

2. Percentage of the Population Experiencing Signs and Symptoms of STI

Group & Site	Total	Male	Female
FSW (Male')			27%
FSW (Addu)			27%
MSM (Male')		17%	
MSM (Addu)		12%	
IDU (Male')	16%	15%	50%
IDU (Addu)	11%	10%	40%
Youth (Male')	19%	11%	26%
Youth (Laamu)	23%	22%	23%
Sea Farers		3%	
Resort Workers		7%	
Construction Workers		4%	

3. Health-seeking Behavior

Group & Site	Total	Male	Female
FSW (Male')			
Proportion who went for treatment by a health practitioner			67%
Proportion who didn't do anything			22%
Proportion who took medicine by herself (self-medicate)			0
Proportion who resort to other modalities			11% (water)
FSW (Addu)			
Proportion who went for treatment by a health practitioner			33%
Proportion who didn't do anything			50%

Group & Site	Total	Male	Female
Proportion who took medicine by herself (self-medicate)			**17%**
Proportion who resort to other modalities			**0**
MSM (Male')			
Proportion who went for treatment by a health practitioner		**17%**	
Proportion who didn't do anything		**75%**	
Proportion who took medicine by herself (self-medicate)		**8%**	
Proportion who resort to other modalities		**0**	
MSM (Addu)			
Proportion who went for treatment by a health practitioner		**0**	
Proportion who didn't do anything		**71%**	
Proportion who took medicine by herself (self-medicate)		**29%**	
Proportion who resort to other modalities		**0**	
IDU (Male')			
Proportion who went for treatment by a health practitioner	**25%**	**18%**	**50%**
Proportion who didn't do anything	**67%**	**68%**	**50%**
Proportion who took medicine by herself (self-medicate)	**8%**	**9%**	**0**
Proportion who resort to other modalities	**0**	**0**	**4%**
IDU (Addu)			

Group & Site	Total	Male	Female
Proportion who went for treatment by a health practitioner	**36%**	**42%**	**0**
Proportion who didn't do anything	**50%**	**50%**	**50%**
Proportion who took medicine by herself (self-medicate)	**0**	**0**	**0**
Proportion who resort to other modalities	**0**	**0**	**0**
Youth (Male')			
Proportion who went for treatment by a health practitioner	**48%**	**40%**	**51%**
Proportion who didn't do anything	**48%**	**56%**	**44%**
Proportion who took medicine by herself (self-medicate)	**1%**	**0**	**2%**
Proportion who resort to other modalities	**4%**	**4%**	**3%**
Youth (Laamu)			
Proportion who went for treatment by a health practitioner	**33%**	**29%**	**37%**
Proportion who didn't do anything	**54%**	**50%**	**58%**
Proportion who took medicine by herself (self-medicate)	**12%**	**21%**	**5%**
Proportion who resort to other modalities	**0**	**0**	**0**
Sea Farers			
Proportion who went for treatment by a health practitioner		**100%**	
Proportion who didn't do anything		**0**	
Proportion who took		**0**	

Group & Site	Total	Male	Female
medicine by herself (self-medicate)			
Proportion who resort to other modalities		**0**	
Resort Workers			
Proportion who went for treatment by a health practitioner		**32%**	
Proportion who didn't do anything		**55%**	
Proportion who took medicine by herself (self-medicate)		**10%**	
Proportion who resort to other modalities		**3%**	
Construction Workers			
Proportion who went for treatment by a health practitioner		**75%**	
Proportion who didn't do anything		**25%**	
Proportion who took medicine by herself (self-medicate)		**0**	
Proportion who resort to other modalities		**0**	

4. Percentage of the Population Seeking Consultation to Certain Facilities for STI

Group & Site	Total	Male	Female
FSW (Male')			
Proportion who consulted in a hospital			**22%**
Proportion who consulted in a public health facility			**0**

Group & Site	Total	Male	Female
Proportion who consulted in a private clinics			**11%**
Proportion who consulted in NGO clinic			**0**
FSW (Addu)			
Proportion who consulted in a hospital			**28%**
Proportion who consulted in a public health facility			**0**
Proportion who consulted in a private clinics			**6%**
Proportion who consulted in NGO clinic			**0**
MSM (Male')			
Proportion who consulted in a hospital		**8%**	
Proportion who consulted in a public health facility		**0**	
Proportion who consulted in a private clinics		**0**	
Proportion who consulted in NGO clinic		**0**	
MSM (Addu)			
Proportion who consulted in a hospital		**0**	
Proportion who consulted in a public health facility		**0**	
Proportion who consulted in a private clinics		**0**	
Proportion who consulted in NGO clinic		**0**	

Group & Site	Total	Male	Female
IDU (Male')			
Proportion who consulte d in a hospital	**21%**	**18%**	**50%**
Proportion who consulted in a public health facility	**0**	**0**	**0**
Proportion who consulted in a private clinics	**4%**	**4%**	**0**
Proportion who consulted in NGO clinic	**0**	**0**	**0%**
IDU (Addu)			
Proportion who consulted in a hospital	**21%**	**25%**	**0**
Proportion who consulted in a public health facility	**0**	**0**	**0**
Proportion who consulted in a private clinics	**14%**	**17%**	**0**
Proportion who consulted in NGO clinic	**0**	**0**	**0**
Youth (Male')			
Proportion who consulted in a hospital	**41%**	**4%**	**35%**
Proportion who consulted in a public health facility	**0**	**0**	**0**
Proportion who consulted in a private clinics	**9%**	**0**	**13%**
Proportion who consulted in NGO clinic	**1%**	**0**	**2%**
Proportion who consulted in other facilities	**0**	**0**	**2%**
Youth (Laamu)			
Proportion who consulted in a hospital	**33%**	**29%**	**37%**

Group & Site	Total	Male	Female
Proportion who consulted in a public health facility	**0**	**0**	**0**
Proportion who consulted in a private clinics	**0**	**0**	**0**
Proportion who consulted in NGO clinic	**0**	**0**	**0**
Sea Farers			
Proportion who consulted in a hospital		**67%**	
Proportion who consulted in a public health facility		**0**	
Proportion who consulted in a private clinics		**33%**	
Proportion who consulted in NGO clinic		**0**	
Resort Workers			
Proportion who consulted in a hospital		**23%**	
Proportion who consulted in a public health facility		**3%**	
Proportion who consulted in a private clinics		**6%**	
Proportion who consulted in NGO clinic		**0**	
Construction Workers			
Proportion who consulted in a hospital		**25%**	
Proportion who consulted in a public health facility		**0**	
Proportion who consulted in a private clinics		**50%**	

Group & Site	Total	Male	Female
Proportion who consulted in NGO clinic		**0**	
Proportion who consulted in other facilities		**3%**	

5. Proportion of the Population who Sought HIV Testing for Certain Reasons

FSW-Male

Reasons	Total	Male	Female
Voluntary			**36%**
Employment purposes			**0**
Issuance of work permit for migrant workers			**0**
Medical Reasons			**54%**
Overseas/Fellowships			**0**
Returning from overseas			**0**
Others			**9% (rehabilitation)**

FSW-Addu

Reasons	Total	Male	Female
Voluntary			**100%**
Employment purposes			**0**
Issuance of work permit for migrant workers			**0**
Medical Reasons			**0**
Overseas/Fellowships			**0**
Returning from overseas			**0**
Others			**0**

MSM-Male'

Reasons	Total	Male	Female
Voluntary		**54%**	
Employment purposes		**27%**	
Issuance of work permit for migrant workers		**0**	
Medical Reasons		**9%**	
Overseas/Fellowships		**0**	
Returning from overseas		**0**	
Others		**9%**	

MSM-Addu

Reasons	Total	Male	Female
Voluntary		100%	
Employment purposes		0	
Issuance of work permit for migrant workers		0	
Medical Reasons		0	
Overseas/Fellowships		0	
Returning from overseas		0	
Others		0	

IDU-Male'

Reasons	Total	Male	Female
Voluntary	36%	39%	33%
Employment purposes	21%	26%	67%
Issuance of work permit for migrant workers	0	0	0
Medical Reasons	32%	30%	0
Overseas/Fellowships	0	0	0
Returning from overseas	0	0	0
Others	4%	4%	0

IDU-Addu

Reasons	Total	Male	Female
Voluntary	52%	50%	67%
Employment purposes	33%	39%	0
Issuance of work permit for migrant workers	0	0	0
Medical Reasons	14%	11%	33%
Overseas/Fellowships	0	0	0
Returning from overseas	0	0	0
Others	0	0	0

Youth-Male'

Reasons	Total	Male	Female
Voluntary	18%	20%	16%
Employment purposes	15%	20%	5%
Issuance of work permit for migrant workers	0	0	0
Medical Reasons	25%	13%	42%
Overseas/Fellowships	10%	10%	10%
Returning from overseas	8%	10%	5%
Others	23%	23%	21%

Youth-Laamu

Reasons	Total	Male	Female
Voluntary	35%	50%	30%
Employment purposes	0	0	0
Issuance of work permit for migrant workers	0	0	0
Medical Reasons	41%	50%	38%
Overseas/Fellowships	0	0	0
Returning from overseas	0	0	0
Others	24%	0	30%

Sea Farers

Reasons	Total	Male	Female
Voluntary		3%	
Employment purposes		86%	
Issuance of work permit for migrant workers		0	
Medical Reasons		3%	
Overseas/Fellowships		2%	
Returning from overseas		2%	
Others		2%	

Resort Workers

Reasons	Total	Male	Female
Voluntary		14%	
Employment purposes		33%	
Issuance of work permit for migrant workers		21%	
Medical Reasons		20%	
Overseas/Fellowships		0	
Returning from overseas		0	
Others		12%	

Construction Workers

Reasons	Total	Male	Female
Voluntary		3%	
Employment purposes		33%	
Issuance of work permit for migrant workers		29%	
Medical Reasons		55%	
Overseas/Fellowships		10%	
Returning from overseas		3%	
Others		0	

6. **Proportion of the Population who Accessed HIV/AIDS/STI Information from Certain Sources**

FSW-Male': 61% received information, last 12 months

Sources	Total	Male	Female
Television			50%
Radio			20%
Newspaper/Magazine			25%
Pamphlets/Brochures			15%
Posters			10%
Clinics			5%
Hospitals			15%
NGO			10%
Workplace			5%
School			10%
Internet			5%
Friends			15%
Families			0
Others			10% (pre-cana seminar, rehabilitation)

FSW-Addu: 34% received information, last 12 months

Sources	Total	Male	Female
Television			70%
Radio			44%
Newspaper/Magazine			13%
Pamphlets/Brochures			0
Posters			4%
Clinics			0
Hospitals			17%
NGO			0
Workplace			0
School			0
Internet			9%
Friends			9%
Families			0
Others			9% (seminar)

MSM-Male': 48% received information, last 12 months

Sources	Total	Male	Female
Television		73%	
Radio		58%	
Newspaper/Magazine		48%	
Pamphlets/Brochures		27%	
Posters		21%	

Sources	Total	Male	Female
Clinics		9%	
Hospitals		6%	
NGO		6%	
Workplace		0	
School		0	
Internet		3%	
Friends		0	
Families		0	
Others		3% (girlfriend)	

MSM-Addu:21% received information, last 12 months

Sources	Total	Male	Female
Television		83%	
Radio		0	
Newspaper/Magazine		8%	
Pamphlets/Brochures		0	
Posters		0	
Clinics		8%	
Hospitals		0	
NGO		8%	
Workplace		0	
School		0	
Internet		0	
Friends		8%	
Families		0	
Others		0	

IDU-Male':42% received information, last 12 months

Sources	Total	Male	Female
Television	58%	56%	100%
Radio	31%	30%	33%
Newspaper/Magazine	18%	17%	33%
Pamphlets/Brochures	21%	22%	0
Posters	11%	10%	33%
Clinics	3%	3%	0
Hospitals	8%	7%	33%
NGO	21%	22%	0
Workplace	3%	3%	0
School	5%	5%	0
Internet	11%	12%	0
Friends	8%	8%	0
Families	3%	3%	0
Others	13% Journey, Rehabilitation Center)	14% (DPRS, DRC, Journey)	0

IDU-Addu:40% received information, last 12 months

Sources	Total	Male	Female
Television	92%	92%	100%
Radio	48%	48%	0
Newspaper/Magazine	52%	50%	50%
Pamphlets/Brochures	12%	12%	0
Posters	27%	27%	0
Clinics	0	0	0
Hospitals	6%	6%	0
NGO	6%	6%	0
Workplace	0	0	0
School	2%	2%	0
Internet	23%	24%	0
Friends	6%	6%	0
Families	0	0	0
Others	8% (DPRS, DRC, Journey)	8% (DPRS, DRC, Journey)	0

Youth-Male': 59% received information, last 12 months

Sources	Total	Male	Female
Television	55%	60%	49%
Radio	16%	17%	15%
Newspaper/Magazine	12%	11%	14%
Pamphlets/Brochures	11%	12%	10%
Posters	4%	4%	5%
Clinics	3%	1%	5%
Hospitals	8%	7%	10%
NGO	1%	2% SHE	1% Journey
Workplace	2%	2%	3%
School	23%	20%	26%
Internet	16%	17%	14%
Friends	8%	48%	6%
Families	2%	1%	4%
Others	6% (awarenes ss program, boyfriend, counseling, lectures, MCSE, Youth Center, Youth Health Café))	4% (counseling, workshop, Youth Center)	9% (awareness program, boyfriend, counseling, lectures, MCSE Pre-cana, workshop, Youth Center, Youth Health Café)

Youth-Laamu: 34% received information, last 12 months

Sources	Total	Male	Female
Television	45%	54%	38%
Radio	26%	21%	31%
Newspaper/Magazine	11%	8%	14%
Pamphlets/Brochures	19%	8%	28%
Posters	2%	4%	0
Clinics	0	0	0
Hospitals	11%	8%	14%
NGO	4%	0	7%
Workplace	0	0	0
School	15%	17%	14%
Internet	4%	4%	3%
Friends	19%	29%	10%
Families	2%	4%	0
Others	4% (DPH)	4%	3% (DPH)

Sea Farers: 60% received information, last 12 months

Sources	Total	Male	Female
Television		70%	
Radio		48%	
Newspaper/Magazine		19%	
Pamphlets/Brochures		10%	
Posters		0	
Clinics		0	
Hospitals		10%	
NGO		0	
Workplace		8%	
School		0	
Internet		2%	
Friends		15%	
Families		0	
Others		5% (doctor, boat)	

Resort Workers: 43% received information, last 12 months

Sources	Total	Male	Female
Television		67%	
Radio		22%	
Newspaper/Magazine		20%	
Pamphlets/Brochures		17%	
Posters		6%	
Clinics		2%	
Hospitals		4%	
NGO		4%	
Workplace		8%	

Sources	Total	Male	Female
School		3%	
Internet		12%	
Friends		10%	
Families		3%	
Others		6% (cafeteria, first aid course, girlfriend, Health Center, Maradho, pre-cana, seminar, SHE, testing, workshop)	

Construction Workers: 33% received information, last 12 months

Sources	Total	Male	Female
Television		64%	
Radio		21%	
Newspaper/Magazine		15%	
Pamphlets/Brochures		0	
Posters		6%	
Clinics		0	
Hospitals		0	
NGO		0	
Workplace		0	
School		3%	
Internet		0	
Friends		21%	
Families		3%	
Others		0	

7. Proportion of the Population with Risky Behavior Related to HIV and STI

Youth

Variable	Male'			Laamu		
	Total	Male	Female	Total	Male	Female
Ever had sex	34%	30%	38%	50%	56%	46%
Median age of sexual debut	20 y.o.	18y.o.	19 y.o.	18y.o.	18y.o.	18y.o.
Type of sexual partner during first sexual encounter						
1. wife/husband	49%	26%	67%	34%	9%	58%
2. girlfriend/botfirend	45%	64%	29%	52%	71%	34%
3. sex worker	1%	1%	0	0	0	0
4. forced sex	1%	1%	1%	1%	0	3%
5. friend/acquaintance/ colleague	4%	7%	1%	10%	20%	0
With pre-marital sex	17%	22%	12%	34%	52%	20%
Condom use during last/only pre-marital sex	33%	44%	18%	39%	36%	44%

Variable	Male'			Laamu		
	Total	Male	Female	Total	Male	Female
Median number of sex partners in the last 12 months	5	2	1	5	5	2
Has ever engaged in group sex	1%	2%	0	8%	19%	0
Ever Had sex w/ sex worker, last 12 months	2%	4%	0.4%	0	0	0
Median number of sex workers, last month	5	1	7	0	0	0
Sold sex, last 12 months	0	0	0	1%	2%	1%
Ever had sex w/ permanent partner, last 12 months	25%	20%	31%	37%	32%	40%
Ever had sex w/ non-regular partner, last 12 months	3%	5%	1%	9%	16%	4%
Ever had sex w/ another man	0.4%	0.4%		0	0	
Ever had consensual anal sex w/ another man, last 6 months	100%	100%		0	0	
Ever had paid anal sex w/ another man	0	0		0	0	
Ever had anal sex w/ another man whom he paid, last 6 months	0	0		0	0	
Ever had forced anal sex	0	0		0	0	
Median age first started looking for sexual information	25 y.o.	15 y.o.	16 y.o.	15 y.o.	16 y.o.	15 y.o.
Ever looked for sexual information from internet, books, magazines, etc, last 12 months	37%	44%	30%	26%	29%	24%

8. Proportion of the Population with Risky Behavior Related to HIV and STI

Occupational Cohorts of Men (OCM): Sea Farers, Resort Workers, Construction Workers

Variable	Sea Farer	Resort Workers	Construction Workers
Ever had sex w/ FSW, last 12 months	6%	4%	2%
Ever had sex w/ non-Maldivian FSW	83%	3%	2%
Ever had sex w/ expatriate FSW	Mostly foreigners:50% All foreigners: 33%	Mostly foreigners:18% All foreigners: 47%	All foreigners: 50%
Places/Manner FSW were availed	Harbour: 33% Pimp: 33%	Street: 12% Pimp: 24%	Street: 50% Artificial Beach: 50%

Variable	Sea Farer	Resort Workers	Construction Workers
Number of months/year w/ a sexual encounter w/ FSW	**2months/year**	**3months/year**	**1month/year**
Number of weeks in a month w/ sexual encounter w/ FSW	**2weeks/months**	**1week/month**	
Number of days in a week w/ sexual encounter w/ FSW	**1 day/week**	**1 day/week**	
Median number of sexual encounters/month w/ FSW:	**3**	**1**	**1**
Median number of FSW/month	**1**	**1**	**1**
Median number of FSW/week	**1**	**1**	**1**
Amount paid to FSW	**MRF400**	**MRF700**	**MRF150**
Condom use during last sex w/ FSW	**83%**	**53%**	**50%**
Reasons for non-condom use	**17%:took medicine**	**12%: none available 12%: reduces pleasure 6% cannot buy 6%partner did not suggest**	**50%: none available 50%: partner refused**
Ever had sex w/ FSW in another country	**100%**	**6%**	**0**
Consistent condom use w/ FSW he had sex w/ in another country	**83%**	**6%**	**0**
Ever had sex w/ FSW while drunk	**1%**	**2%**	**0**
Ever had anal sex w/ another man	**0**	**0.2%**	**1%**
Ever had forced anal sex	**0**	**0.2%**	**2%**
Ever used prohibited drugs	**3%**	**6%**	**0**
Ever injected drugs	**0**	**0**	**0**
Ever had sex partner who injects prohibited drugs	**21%:don't know**	**2% w/ injecting partner 4% don't know**	**7% don't know**

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