Condom distribution program for San Francisco County Jail

METHOD

In 1989, San Francisco became the first county jail system in California to distribute condoms to prisoners. Condom distribution began as a collaborative effort between the San Francisco City/County Sheriff and the Department of Public Health. Every condom distributed required one-on-one counseling from a health educator. Counseling included the reminder that having sex in jails is illegal and can be charged as a felony; the message that, if you are going to have sex, use a condom and the warning that, if found with an open condom, it will be confiscated. This ongoing one-on-one counseling and condom distribution program has been an excellent means to distribute condoms to prisoners in jail, but has limitations.

First, the effectiveness of the program depends on prisoners' comfort with the person who is distributing condoms and staff willingness to offer and promote condom distribution. Second, only a limited number of prisoners could have access to condoms this way. Third, it involves a very complex prevention message.

Intervention

With the assistance and collaboration of the SF Sheriff's Department, we installed, stocked and monitored a condom dispensing machine in a jail facility gymnasium to which 800 prisoners have access on a weekly basis to determine the feasibility of such a condom distribution program. Prior to installation we conducted surveys and interviews with prisoners and staff to determine attitudes toward prisoner condom access and to assess prisoners' risk behavior. After the machine had been in operation for four months, we conducted follow-up surveys and interviews to assess changes in attitudes or behavior.

Condom machine

The condom machine was installed on April 17, 2007, in the gymnasium of the Hall of Justice. That gymnasium is used by two floors of prisoners. We monitored its use over the course of four months, including recording the number of condoms dispensed, and

This document as well as the harmreduction.eu website, was created within the joint action '677085 / HA-REACT,' which has received funding from the European Union's Health Programme (2014-2020).

HA·REACT JOINT ACTION ON HIV AND CO-INFECTION PREVENTION AND HARM REDUCTION

information about disciplinary incidents relating to the machine or to increased access to condoms within the jail.
The condom dispensing machine was a laminated sign was put up by the machine, with the "Condom Machine Rules" in English, Spanish and Mandarin.

The Condom Machine Rules read:

- **Take only one condom per visit to the gym.**
- **Immediately open condom package and discard the external paper box and cellophane wrapper.**
- **Condoms enclosed in the clear sealed plastic wrapper are not contraband.**
- **Condoms remaining in the orange box or removed from the clear sealed plastic wrapper are contraband and will be confiscated.**
- **Having sex in jail is illegal under California Penal Code § 286(e).**
- **Failure to obey these rules will result in discontinuation of this condom access program.**

Over the next four months a member of the research team visited the machine weekly to monitor and fill the machine.

EVALUATION

To determine the feasibility and potential impact of distributing condoms to jail prisoners via a condom machine, we conducted qualitative interviews with Sheriff's Department staff prior to and four months-post installation to assess attitudes and barriers and facilitators of this risk-reduction approach (see Appendix A in this part). We also conducted quantitative surveys with prisoners prior to and four months post-installation to assess risk behavior, attitudes and barriers and facilitators of condom distribution. Four months post-installation, we conducted qualitative interviews with 9 prisoners who had access to the condom machine.
In addition, we stocked and monitored the condom dispensing machine to determine how many condoms had been dispensed. We routinely screened for reports of problems with the machine or disciplinary issues involving condoms among prisoners with access to the condom dispensing machine during the four month study period.

This document as well as the harmreduction.eu website, was created within the joint action '677085 / HA-REACT,' which has received funding from the European Union's Health Programme (2014-2020).

CONCLUSION

Increasing access to condoms

Our project was successful at increasing the availability and knowledge of condom distribution in the San Francisco County Jail. During the four month study period (April 17-August 17, 2007) 1,331 condoms were placed in the machine, for an average of 102 condoms per week.

Comparing the pre- and post-intervention prisoner surveys:

- The percentage of prisoners knowing that condoms were available in jail increased from 12% to 58%.
- The number of prisoners who received a condom in the jail increased from 4 to 22.

Discipline issues

In interviews prior to the intervention, line staff were primarily concerned about discipline and operational issues (such as increased incidence of prisoners having sex or prisoners using condoms to transport drugs). Administrative staff expressed more concern about "sending the wrong message" or "sending a mixed message" about sex in the jail. One asked, for example, why we would focus on condom distribution rather than putting efforts toward halting sex among prisoners.

Following the intervention period, staff reported that there were no disciplinary issues related to condoms or the condom dispensing machine. Some prisoners who were interviewed post-intervention appeared to be genuinely puzzled by staff concerns about prisoners using condoms to carry contraband or for other illegal uses.

Sex among prisoners

In pre-intervention interviews, staff viewed sex among prisoners as "infrequent" or "occasional" and, unless asked specifically about consensual sex, tended to focus their comments on sexual assault issues and examples.

All prisoners who were interviewed post-intervention acknowledged that sex occurs in the jail and noted that prisoners would be reluctant to admit that they themselves have sex in jail. This findings supports the need for more anonymous condom access methods.

This document as well as the harmreduction.eu website, was created within the joint action '677085 / HA-REACT,' which has received funding from the European Union's Health Programme (2014-2020).

HA·REACT JOINT ACTION ON HIV AND CO-INFECTION PREVENTION AND HARM REDUCTION

Condom distribution in jail

In pre-intervention interviews, most staff were not aware of the current one-on-one HIV counseling and condom distribution program being conducted by the Forensic AIDS Project.

In post-intervention interviews, some, although not all, staff reported being more positively inclined toward allowing condom access at the jail. Even those who continued to be opposed to condom use reported that they supported access to condoms on release from jail.

Of the nine prisoners we interviewed post-intervention, eight were aware that condoms were being distributed in the jail and most knew about both types of programs. The same eight interview participants supported condom access in the jail, and the one who did not said he did not “because sex is illegal in prison.” Several prisoners who were interviewed suggested that prisoners were more likely to have sex in jail if condoms were available because "it (sex) can be safe". We did not, however, see any increases in prisoners’ reports of having had sex at the jail following the condom access intervention.

Finally, there were few reports of stigma-related events involving people who took condoms from the machine.

This document as well as the harmreduction.eu website, was created within the joint action ‘677085 / HA-REACT,’ which has received funding from the European Union’s Health Programme (2014-2020).

Evaluation of a Prisoner Condom Access Pilot Program Conducted is One California State Prison Facility

METHOD

In December 2007, the CDCR Special Projects Unit (SPU) convened a Sexual Barrier Device Task Force comprising internal and external stakeholders, including CDCR Legal Affairs, Risk Management, Regulations and Policy Management, and Research; the California Correctional Health Care Services (CCHCS), Public Health Unit (PHU); the California Department of Public Health (CDPH), Office of AIDS (OA), and Sexually Transmitted Disease (STD) Control Branch; the Center for Health Justice (CHJ); and other non-profit organizations. CDPH OA and the STD Control Branch reviewed existing condom programs and proposed evaluation measures. Task Force members conducted site visits to observe condom distribution methods and inmate education in the Los Angeles and San Francisco county jails. CHJ implemented the condom pilot program, and CCHCS/PHU directed the evaluation study in collaboration with OA and the STD Control Branch.

CDCR selected Solano State Prison (SOL) Facility II for the pilot project based on its Level III security status; housing general population inmates (including one mental health unit) in four 270-degree-view celled buildings (housing inmates in two-person cells); and one dormitory. CDCR chose dispensing machines for condom distribution based on successful use in the San Francisco jail system and several other prison systems, and because dispensers require minimal staff involvement. Because, in practice, the California Code of Regulations (CCR) Title 15, §3006 (contraband) prohibits inmates from possessing condoms, CDCR applied an exception to the contraband rule for Facility II inmates. From November 5, 2008 through November 4, 2009, Facility II inmates were permitted to access condoms from wall-mounted dispensers located in common areas of the celled housing units, the dormitory restroom area, the Education Building restroom, and the Medical Primary Care waiting area restroom. Although the dispensers in the Education Building and Medical Primary Care restrooms were accessible to inmates in other facilities, non-Facility II inmates were prohibited from using the dispensers or possessing condoms. At the end of the pilot, CDCR removed the machines and reinstated the rule regarding condoms as contraband.

This document as well as the harmreduction.eu website, was created within the joint action '677085 / HA-REACT,' which has received funding from the European Union's Health Programme (2014-2020).

SOL developed an Institutional Operations Plan (**see Appendix B in this part**) and completed labor negotiations. The Operations Plan stated the public health purpose of the condom pilot program, and provided a means to communicate with staff. To ensure professional implementation, the Operations Plan stressed the importance of discreet access and instructing officers to write up inmates only for the specific penal code violation when a condom is used or misused and not additionally for possession of a condom as contraband. CHJ gave presentations to staff during the Quarterly Warden's Forum meetings just prior to the pilot. Information was also shared with staff during staff meetings and New Employee Orientation. CHJ, in collaboration with CDCR personnel and the inmate peer educators, developed an inmate information flyer and produced a video to be shown on inmate television throughout the pilot. The flyer and program rules (see Appendix C in this part) were posted adjacent to each dispenser and distributed to all existing and arriving Facility II inmates. Inmate education included a clear message that sexual activity while incarcerated is still against the law. The SOL inmate Men's Advisory Council (MAC) was briefed throughout the pilot, and the SOL Peer Education Coordinator and inmate peer educators provided information and counseling to inmates about HIV/STD and hepatitis risks and the proper use and disposal of condoms.

Based on initial observations, custody staff had two main concerns:

1. reconciling the illegality of sex in prison with providing condoms; and
2. the potential for harm and misuse of condoms to conceal contraband.

Inmates were concerned about:

1. the perception that provision of condoms condones sex among inmates;
2. being portrayed by the media as homosexual and consequently negatively judged by family, friends, and the community;
3. the potential impact on their daily routine (e.g., more lockdowns);
4. the possibility of being written up for a rule violation; and
5. the dispensers mounted in plain view in the housing units sending a mixed message.

This document as well as the harmreduction.eu website, was created within the joint action '677085 / HA-REACT,' which has received funding from the European Union's Health Programme (2014-2020).

Key factors ensuring effective implementation of the pilot project included collaboration among the lead organizations and task force members, administrative buy-in, engagement of custody staff, and clear communication to staff and inmates about the project purpose, plan, and rationale. By the end of the pilot, both staff and inmate concerns appeared to have diminished, from the perspective of MAC, inmate peer educators, and SOL custody leads.

EVALUATION

Aims

We conducted a one-year pilot study. To assess the potential impact of condom distribution on safety and security (risk) we:

1. compared pre-pilot and pilot period rates of documented rule violations involving contraband, controlled substances, assaults with weapons, and sexual misconduct; and
2. surveyed staff and inmates about unintended uses and negative consequences or serious incidents involving condoms.

To assess whether condoms were readily available and barriers to accessing condoms (feasibility), program staff monitored the condition and operability of each dispenser and the numbers of condoms dispensed on a regular basis. We surveyed staff and inmates about their preferences for dispensing machine locations and type of distribution method. To collect additional qualitative information about program acceptance and to obtain feedback on education and condom distribution methods (including any problems with the dispensers), we held several voluntary meetings with the SOL inmate peer educators and inmate MAC members throughout the pilot.

To estimate the first year cost and subsequent annual cost of distributing condoms using the pilot project model, CHJ staff provided us with information about the dispensing machine and condom costs and the time required to check and stock the dispensers. Factoring in salary expenses, we compared the cost of condom distribution using the dispensers with the average annual cost of medications to treat one HIV case.

Rule Violation Report (RVR) Review

CCR, Title 15, sections 3006 (contraband), 3007 (sexual behavior), 3008 (obscenity), 3016 (controlled substances, drug paraphernalia and distribution), and 3005 (conduct:

This document as well as the harmreduction.eu website, was created within the joint action '677085 / HA-REACT,' which has received funding from the European Union's Health Programme (2014-2020).

HA·REACT JOINT ACTION ON HIV AND CO-INFECTION PREVENTION AND HARM REDUCTION

force or violence, with a notation of severe bodily injury or involvement of a weapon) were eligible for inclusion in the study. We reviewed the RVR database records and corresponding hardcopy reports for these violations. We abstracted the penal code violation, violation date, findings (found guilty or not guilty), and adjudication from the RVR database, and the inmate housing assignment, contraband or act, and wrapping used (e.g., cellophane, latex glove, condom) from the hardcopy records. We abstracted adjudicated RVR database records and reports available at four months after the last day of the pre-pilot and pilot intervals respectively.

To permit comparison of incident rates by the specific Penal Code violation and by the type of housing unit, custody staff provided us with inmate average daily population (ADP) estimates from on-site custody records. We calculated the number of incidents per 100 ADP per year for all violation and housing type categories for the pre-pilot period (November 5, 2007 through November 4, 2008) and pilot period (November 5, 2008 through November 4, 2009). Since the dormitory was closed five months into the pilot period, we compared violations during the last five months of the pre-pilot period with the first five months of the pilot period. Finally, although the administrative housing units were not included in the pilot program, we included violations by inmates housed in these units, in case condoms were indirectly accessed.

To assess the comparability of the pre-pilot and pilot interval incident rates, we calculated the percentage of RVR database records that were adjudicated and the percentage of eligible incidents for which a report was available for abstraction.

Monitoring Condom Dispensing Machines

CHJ staff checked and stocked the condom dispensers weekly for the first nine months and then every other week for the final three months of the pilot year. CHJ staff reduced the frequency of checking the machines after monitoring had clearly established that dispensers would not be emptied within two weeks. Each dispenser was initially filled to capacity with 144 condoms. The number of condoms required to refill each dispenser was recorded for each site visit by date and dispenser location. We collected information on the time required to check and stock the dispensers, dispenser operability, and damage due to tampering or vandalism.

This document as well as the harmreduction.eu website, was created within the joint action '677085 / HA-REACT,' which has received funding from the European Union's Health Programme (2014-2020).

Cost

CHJ purchased the condom dispensing machines from C&G Manufacturing (Grand Junction, Colorado) for $200 each and the condoms for $.22 each. Based on the ADP of 810 inmates in the pilot facility celled buildings and dormitory, the unit costs of dispensers and condoms, the total number of condoms dispensed during the pilot year, and the time required for CHJ to check and stock the dispensers, we estimated the cost per inmate of providing condoms from three dispensers mounted in discreet and accessible locations. We applied a salary of $50 per hour hto the time required to check and stock three dispensers. The cost of treating one HIV-infected patient in the United States is estimated to be between $2,100 per month if diagnosed early, and $4,700 per month if diagnosed with progressed disease. We compared the cost of condom distribution with the mid-range cost of treating one HIV patient per year, and applied the condom distribution cost to cover the 147,861 male and female inmates in CDCR in-state institutions and camps. We estimated the number of HIV infections that would need to be prevented for condom distribution to be cost-neutral by dividing the total program cost by the cost to treat one HIV patient for one year.

Staff and Inmate Surveys

Two months prior to the pilot start date and again at the conclusion of the one-year pilot, CDCR attached an anonymous, self-administered, paper survey and postage-paid CDPH return envelope to the pay warrants of all staff at SOL. Staff reporting at least ten percent of their time spent in Facility II or working with Facility II inmates were eligible for inclusion in the analysis. We also surveyed general population inmates from Facility II through confidential interviews within two months prior to the pilot start and within one month of the conclusion of the pilot period. Inmates who were housed in Facility II for at least one year at the time of the pre-pilot survey and inmates housed in Facility II for the duration of the pilot were eligible to participate in the pre- and post-pilot surveys, respectively. We reviewed custody records for inmate work and program hours for optimal scheduling of voluntary meetings with the CDPH interviewers. Eligible inmates received a voluntary ducat allowing passage through security checkpoints to meet in a designated confidential space with a trained CDPH interviewer. After obtaining written informed consent, we administered a face-to-face standardized questionnaire.

This document as well as the harmreduction.eu website, was created within the joint action '677085 / HA-REACT,' which has received funding from the European Union's Health Programme (2014-2020).

The inmate and staff survey instruments included both closed-ended and open-ended questions relevant to the study aims and objectives.

Meetings with Inmate Peer Educators and Men's Advisory Council (MAC)

We met with three MAC representatives and all eight of the SOL inmate peer educators separately at three and six months into the pilot period. To facilitate group discussion, we invited the inmates to ask questions about the pilot project and to voice their opinions about whether condoms should be available, how best to distribute condoms, and what should be included in education for inmates. We also asked them questions based on their observations and conversations with other inmates about:

1. how inmates were learning about the pilot program,
2. opinions expressed by other inmates about condom access, and
3. whether they were aware of or had heard of any problems regarding the condom dispensers.

RESULTS

Rule Violation Report Review

The RVR dataset included 1,214 pre-pilot and 782 pilot interval records. Exclusion of records that were not from Facility II or that had an ineligible or missing violation date resulted in 1,159 pre-pilot and 771 pilot period records. Of these, 494 pre-pilot and 316 pilot interval records, respectively, represented eligible violations. After de-duplicating, excluding un-adjudicated records, and dropping incidents of violence without a weapon, we included 398 and 258 eligible violations in the pre-pilot and pilot period datasets, respectively.

There were no increases in the unadjusted or adjusted numbers for specific eligible violations for those in the general population housing units (including the celled buildings and dormitory), for those with missing housing information, and for those in Facility II overall. There also were no increases in the total counts and rates per 100 ADP for eligible violations overall, including those in the general population and administrative segregation housing units, and for those with missing housing information.

We found very similar rates of adjudication when comparing the pre-pilot (89.5 percent) and pilot (89.2 percent) intervals. Eighty-one (20.2 percent) of the pre-pilot and 23 (8.7

This document as well as the harmreduction.eu website, was created within the joint action '677085 / HA-REACT,' which has received funding from the European Union's Health Programme (2014-2020).

HA·REACT JOINT ACTION ON HIV AND CO-INFECTION PREVENTION AND HARM REDUCTION

percent) of the pilot period incidents were missing the housing unit building number, due to the hardcopy report not having been filed and available for abstraction by the four-month cut-off date.

One incident occurred during the pre-pilot period, in which a "balloon" (a term used by some custody staff to mean a condom) containing heroin was introduced into Facility II by an inmate returning from a weekend family visit. We found no instances during the pilot period of a condom being used to conceal or transport contraband, controlled substances, drug paraphernalia, or weapons. The Associate Warden for the Level III population and Facility II custody supervisors were also unaware of any reported or reportable incidents involving condoms during the pilot period.

During the pre-pilot period, there were ten incidents of sexual misconduct, including one described as "consensual" anal sex between cellmates. The remaining nine were for inappropriate touching in the visiting area, masturbation, or indecent exposure. All of the pre-pilot incidents, except touching in visiting area, involved inmates housed in Administrative Segregation. During the pilot period there were six incidents of sexual misconduct, including masturbation and indecent exposure, with no condom use reported.

Monitoring Condom Dispensing Machines

A total of 2,383 condoms were dispensed from seven machines during the pilot period. Of these, 263 condoms were left in the dispenser tray and 10 were reportedly taken initially by staff, citing training purposes, resulting in a total of 2,110 condoms dispensed. Of the 2,110 total, 817 were dispensed in the Education Building restroom, 395 in the Medical Primary Care restroom, 727 overall in the four celled housing units, and 103 in the dormitory during the five months it was open. Four hundred and ninetynine condoms (24 percent) were dispensed during the first month. Excluding the first month, greater numbers of condoms were dispensed in the Education Building restroom (695) and the Medical Primary Care restroom (395), compared with each of the four dispensers in the celled housing units (range: 89 to 156; total: 446).

Routine monitoring throughout the pilot showed that the dispensers in the Education, medical, and dormitory restrooms were less frequently vandalized or found to be inoperable, compared to the dispensers in plain view in the celled housing units. Excluding the first month and the weeks during which the dispenser was found

This document as well as the harmreduction.eu website, was created within the joint action '677085 / HA-REACT,' which has received funding from the European Union's Health Programme (2014-2020).

inoperable or not mounted, or the building was closed, the average number of condoms dispensed per week was 4 in the celled housing units, 3 in the dormitory, 9 in the medical restroom, and 14 in the Education restroom.

Cost

The cost, including the purchase of the dispensers and the condoms, was $1.39 per inmate, for an ADP of 810 inmates during the pilot year. The cost of the condoms alone was $.65 per inmate. CHJ staff reported spending an average of 38 minutes per visit to check and stock all seven dispensers, or 5.4 minutes per dispenser. Given that, during the pilot, 2,383 condoms were dispensed from dispensers holding 144 condoms each, we estimated that three dispensers would need to be checked and stocked 6.6 times per year (approximately every two months), taking 0.13 minutes of staff time per inmate per year. (We based our cost projections on three, rather than seven, dispensers because the four dispensers in the celled housing units were found to be inoperable at least twice the rate of any other location, and the three other locations (Education Building, Medical Primary Care, and dormitory restrooms) were the only discreet locations available in Facility II, a typical Level III facility.) After adjusting for a salary of $50 per hour, and calculating the total cost based on 147,861 male and female inmates currently in-state in CDCR institutions and camps, we arrived at a total cost of $221,368, or $1.49 per inmate, for the first year, including the one-time purchase of the dispensers; and a total of $95,653, or $.76 per inmate, for subsequent years, to maintain the program. Dividing the total program cost by the average annual cost of antiretroviral medications to treat one HIV patient in the United States ($40,800), we estimated that 5.4 HIV infections would need to be prevented in CDCR statewide for a cost-neutral program in the first year. Similarly, 2.7 HIV infections would need to be prevented statewide for a cost-neutral program in subsequent years.

Staff and Inmate Surveys

Pre-pilot, 114 of 1,342 staff and 26 of 242 inmates, and, at the conclusion of the pilot, 55 of 1,381 staff and 25 of 171 inmates, were eligible and participated in a survey.

The convenience sample of custody, medical, and other staff answered questions regarding the impact of condoms on safety and security. The number of staff who agreed that inmates would use condoms for something other than sex that would result in serious negative consequences or injury to staff or inmates fell from 85 (76 percent)

This document as well as the harmreduction.eu website, was created within the joint action '677085 / HA-REACT,' which has received funding from the European Union's Health Programme (2014-2020).

pre-pilot to 5 (10 percent) after the pilot. Among custody staff, 52 (83 percent) agreed pre-pilot and only 3 (13 percent) agreed after the pilot. Following the conclusion of the pilot, five staff reported being aware of or hearing about condom use that resulted in injury to staff or inmates. Of three staff who elaborated, two custody staff made general statements that inmates may use the condoms to conceal drugs and cell phones, and one medical staff person reported that a heroin overdose had occurred, but did not provide specific information regarding how a condom had caused the overdose.

We asked staff respondents to rank their preferences regarding how condoms should be distributed. Making condoms available confidentially during a medical visit or from dispensing machines were more commonly preferred over allowing non-profit or health agencies to distribute condoms during health education classes. The reasons given for preferring distribution during a medical visit were the need for confidentiality, a perception that condoms are a medical issue, and improved access. Prior to the pilot, more staff preferred that condom dispensers be in view of custody posts. However, following the pilot, more staff preferred that dispensers not be in view of custody posts. The reasons for favoring dispensers not being in view of custody were confidentiality, improved access, and less impact on staff. Staff preferring dispensers in view of custody felt that inmates should be monitored in case they may be planning to engage in illegal activity.

Among the convenience sample of inmates following the pilot, when asked to suggest better ways to distribute condoms, five suggested placing dispensers in less conspicuous areas for confidentiality and improved access, since dispensers in hidden areas would be less likely to be vandalized. Seven inmates suggested making condoms available in clinics or from medical staff.

Meetings with Inmate Peer Educators and Men's Advisory Council (MAC)

At three months into the pilot period, the inmate peer educators and MAC representatives were approached often by inmates throughout SOL requesting information about the purpose of the program; wanting to know why SOL Facility II was selected; and expressing concern that the program promoted homosexuality and that condoms do not protect against HIV or hepatitis transmitted through sharing needles for drugs and tattooing. Inmates were also concerned that, because only Facility II was chosen for the pilot project, they were being portrayed as having more homosexual or

This document as well as the harmreduction.eu website, was created within the joint action '677085 / HA-REACT,' which has received funding from the European Union's Health Programme (2014-2020).

HIV-infected inmates in their facility compared with other facilities or prisons. Some inmates also feared that inmates seen taking condoms would be written up for violations more frequently and that disturbances around the condom dispensers would impact non-participating inmates indirectly as a result of lock-downs.

During the meetings held six months into the pilot program, the inmate peer educators and MAC inmates reported that the novelty of the program had significantly decreased. In contrast to early in the pilot, when large numbers of inmates were voicing concern about the stigma around homosexuality and HIV, the potential for more lock-downs and write-ups involving condoms, and why Facility II had been selected, as the pilot progressed, the dispensers were seldom mentioned and no one was aware of any write-ups or disturbances around the dispensers. Inmates reportedly continued to approach the peer educators and MAC representatives with questions about the pilot, and some inmates shared their acceptance of the program privately, in contrast to the negative opinions stated openly on the yard earlier. Some inmates from outside of Facility II asked why they did not have access to condoms.

None of the peer educators or MAC representatives reported having observed inmates accessing the dispensers in the housing units, noting that the lack of privacy and peer pressure are barriers to using the machines, and that the dispensers had been vandalized. They felt that the Education Building and Medical Primary Care restroom dispensers provide sufficiently confidential access, but there should be additional ways to obtain condoms including during a medical visit, from the medication dispensing window, and with a brochure in the orientation kit given to entering inmates. They also expressed a need to expand access to administratively segregated inmates who are under constant and close custody supervision outside their cells.

The inmate peer educators and MAC representatives noted that the inmate peer educator video played daily on inmate TV appeared to be the most effective means of informing the inmate population. They stressed that education for inmates should elaborate on the purpose of the program, include more information about HIV/STDs and hepatitis in the prison setting, and include messaging that is public health rather than life-style focused with a wide range of health issues. In addition, education and prevention should include methods other than condoms since throughout the pilot inmates expressed concern that condoms do not prevent non-sexual transmission of HIV and hepatitis.

This document as well as the harmreduction.eu website, was created within the joint action '677085 / HA-REACT,' which has received funding from the European Union's Health Programme (2014-2020).

CONCLUSION

Risk

We found no incidents involving a condom in our review of the RVR database records and hardcopy reports. The incident numbers and rates did not increase from the prepilot to pilot years for each violation type and there were no incidents reported to us by custody supervisors or managers. We found no evidence that misuse of a condom resulted in injury to a staff person or inmate. Although several staff survey respondents alleged that a condom had caused an injury, convincing details were not provided and there were no such incidents reported through the RVR process.

The very similar rates of adjudication comparing the pre-pilot and pilot intervals suggests that the timeliness of processing reports was consistent across the pre and post-pilot intervals, resulting in comparable data across the intervals. Eighty-one (20.2 percent) of the pre-pilot period incidents were missing the housing unit building number due to the hardcopy report not being filed and available for abstraction by the four month cut off date. However, only 23 (8.7 percent) of the pilot period reports were unavailable for abstraction. Had a greater proportion of pilot period reports been unavailable, we would have found greater reductions rather than any increases in the numbers and rates of incidents than we observed.

Feasibility

Condom distribution in the prison setting using dispensing machines appears to be a feasible method provided there are multiple discreet locations. Since dispensers in discreet locations were more acceptable, inmates who need condoms may be more likely to access them from these locations. Our observation that dispensers in plain view were frequently vandalized supports the need for discreet locations and is consistent with open-ended comments made by staff and inmates who responded to the survey, as well as the inmate peer educators and MAC representatives during meetings with CDPH and CHJ staff throughout the pilot year. Dispensers in discreet locations are expected to require repair or replacement less frequently compared to dispensers in plain view.

This document as well as the harmreduction.eu website, was created within the joint action '677085 / HA-REACT,' which has received funding from the European Union's Health Programme (2014-2020).

HA·REACT
JOINT ACTION ON HIV AND CO-INFECTION PREVENTION AND HARM REDUCTION

Cost

Our best estimates indicate an average pharmacy cost-savings of $40,800 per year to treat each HIV infection acquired while in custody. Just 2.7 to 5.4 HIV infections would need to be averted to cover the costs of condom distribution using dispensing machines. Condoms can be provided using this method at very low cost and minimal time required to check and refill the dispensers. The costs associated with treating one HIV patient are likely to be higher. The cost included in our estimate is for antiretroviral medications only, accounting for 73 percent of the total cost of HIV care. Other costs such as hospitalizations (13 percent) and outpatient care (9 percent) may be significantly higher in correctional settings due to custody supervision and housing policies. In addition, while it would be difficult to estimate the percentage of those who are infected with HIV in CDCR who would subsequently receive treatment in CDCR and the duration of their treatment, it is likely that the majority will be treated in CDCR for at least one year, given the average time served is 25 months and a recidivism rate of over 65 percent in California (see *California Department of Corrections and Rehabilitation, Fourth Quarter 2008 Facts and Figures*. Available at: http://www.cdcr.ca.gov/juvenile.../JanQuarterlyReportFINAL02-18-2009.pdf).
In addition, a majority of HIV-infected prisoners released to the community are likely to receive publicly funded treatment and care.

As observed with other jail and prison condom programs, higher numbers of condoms were distributed early on, likely due to the novelty of the program. There was also increased uptake of condoms during the last couple months of the pilot, possibly due to inmates or staff stocking up prior to the dispensers being taken down. Considering the higher than average uptake early and late in the pilot year, the actual cost of condoms and time to re-stock dispensers could be lower than we estimated once a program is established.

In the Georgia state prison system, there were 41 HIV seroconversions between July 2003 and February 2005 (Centers for Disease Control and Prevention, 2006). The most common HIV risk factor reported by the seroconverters was male-to-male sexual contact, including 72 percent reported as consensual with the remaining 28 percent including exchange sex (e.g., for money, goods, or protection) and forced sex. Given the

This document as well as the harmreduction.eu website, was created within the joint action '677085 / HA-REACT,' which has received funding from the European Union's Health Programme (2014-2020).

Georgia state prisons' inmate population in 2005 was 44,990, we estimate the in-custody HIV seroconversion rate was 57 per 100,000 inmates per year. There may be a number of population and other factors influencing HIV risk behaviors and transmission rates that differ between the Georgia and California state prison systems. However, given prisoners as a group are at higher risk for HIV, STDs, hepatitis, and co-morbid illnesses, it is reasonable to assume that HIV transmission occurs frequently enough among CDCR prisoners to avert the 2.7 to 5.5 infections per year for a cost-neutral or cost saving program if condoms were made available. Several program evaluations found that when condoms are available prisoners use them during sex and that sexual activity is not increased (see anther examples), indicating that the transmission of HIV/STDs would likely decrease. Since sexual activity has been documented in California prisons, it is likely that the availability of condoms would also prevent HIV/STDs in California prisons.

Limitations

The current study took place in a Level III, general population facility. The findings may not be generalizable in different settings, (e.g., with a higher level of security or in a housing unit designated for a population requiring a high level of mental health services).

Rule Violation Report Review

The cut-off date of four months following the end of the pre-pilot and pilot intervals for inclusion of adjudicated RVR database records and associated hardcopy reports means that we could not include some rule violations in the current analysis, either because the violation had not yet been adjudicated or the hardcopy report had not yet been filed in the RVR log book.

Overall, we found fewer incidents and lower incident rates per 100 ADP during the pilot year compared with the pre-pilot year. A possible explanation is that between December 2008 and May 2009 (during the pilot year) the celled housing units were undergoing cell door retrofits during which inmates were moved to other buildings. The cell moves may have temporarily disrupted or discouraged rule violations because of the increased risk of being found in possession of contraband or controlled substances during the move.

This document as well as the harmreduction.eu website, was created within the joint action '677085 / HA-REACT,' which has received funding from the European Union's Health Programme (2014-2020).

Monitoring Condom Dispensing Machines

Because the Education Building restroom dispenser was accessible to a subset of inmates in Facilities I and II and the Medical Primary Care restroom dispenser was accessible to a subset of inmates from all four Facilities, inmates from outside Facility II may have taken condoms, even though they notified that they would be written up if found in possession of a condom. While all Facility II general population inmates had access to dispensers in their housing units, only a subset of Facility II inmates could access the Education Building and Medical Primary Care restroom dispensers. Although more condoms were taken from the Education Building and Medical Primary Care restrooms than from the housing unit dispensers, we cannot conclude based on uptake levels alone, that the Education Building and Medical Primary Care restroom dispensers were more accessible to Facility II inmates. However, the far greater percentage of time that the dispensers in the celled buildings were inoperable compared to those in Education Building and Medical Primary Care locations and feedback provided by the inmate peer educators and MAC representatives supports this conclusion.

Inmate and Staff Surveys

The low survey response rate among staff and inmates introduces significant limitations for estimating the impact of the pilot project and the results are not generalizable. Staff and inmates who agreed to answer questions may have been more likely to either oppose or be in favor of prisoner access to condoms. Because the staff survey was anonymous, staff who were either strongly opposed or in favor of condom access may have responded to both surveys. Due to the low response rates and the serious biases that may have been introduced, we treated the survey responses as convenience samples, and include only notable open-ended responses and anecdotal trends in the results and discussion.

This document as well as the harmreduction.eu website, was created within the joint action '677085 / HA-REACT,' which has received funding from the European Union's Health Programme (2014-2020).

A Condom Distribution Program in the K6G Protective Custody Unit of the Los Angeles County Men's Central Jail

We presented an analysis of a condom distribution program in the K6G protective custody unit of the Los Angeles County Men's Central Jail, which houses self-identified gay and transgender inmates separately from other inmates.
Officials at the Los Angeles County Men's Jail have permitted the Center for Health Justice (CHJ), a private, non-profit organization, to distribute condoms to inmates in the segregated MSM unit for disease control purposes since 2001. The unit houses approximately 320 inmates, many of whom stay for less than 7 days. CHJ staff visit the unit once a week, at which time inmates line up and may receive a single condom.

METHODS

We examines the cost and changes in transmission of HIV resulting from introducing condoms into a jail setting housing MSM and transgender inmates. Estimates of the amount of HIV transmission with and without a condom distribution program are made for a population of inmates with the characteristics of respondents to the 2007 survey (e.g., same share infected, same length of stay). The factors that differ between the two scenarios are the proportion of sex acts that are protected by condoms and the percent of the inmate population who engage in anal sex. This study was approved by the University of California, Los Angeles Institutional Review Board and the Charles Drew University Institutional Review Board.

Inmate Data

Data on the characteristics of inmates and on the number of risk acts in the K6G unit when condoms are available to inmates are derived from a self-administered, computerbased survey conducted in 2007 in the MSMunit. Of the 157 randomly-selected inmates who were available for the survey (not restricted in their movements for disciplinary reasons), 111 attended an information session and were eligible for the survey because they had been incarcerated for at least 7 days, spoke Spanish or English, and were able to provide informed consent. Data are available on 101 inmates (Harawa N.T., Sweat J., George S., Sylla M., 2010). These data contain information on inmates' reports of their sexual activity while in jail. Of the 60.4 % of respondents who had been

This document as well as the harmreduction.eu website, was created within the joint action '677085 / HA-REACT,' which has received funding from the European Union's Health Programme (2014-2020).

in the MSM unit for at least 30 days, 52.6 % reported having had anal sex in jail during the prior 30 days. Those who engaged in anal sex reported an average of 9.8 encounters per month. Respondents to the 2007 survey who confirmed anal sexual activity in jail reported that they used condoms 51 % of the time, thus the 52.6 % of inmates who reported sexual activity in jail had an average of 5.0 protected acts and 4.8 unprotected acts per month.

We test the sensitivity of results to four different assumptions about the proportion of inmates who have anal sex in jail:

1. 52.6 %, equal to the rate observed in the 2007 survey;
2. 40 % of inmates;
3. 30 % of inmates;
4. 28.5 % of inmates, equal to the rate reported in 2001.

For the base case, we make the conservative assumption that 40 % of inmates participate in anal sex when there is no condom distribution program, and 52.6 % participate when a condom distribution program is in place. There also were no data on the number of encounters per month among inmates who were sexually active when there is no condom distribution program. Our sensitivity analysis tests the effect of assuming half as many monthly encounters as observed in the 2007 survey.
In the 2001 survey of inmates, conducted prior to condom distribution, only 2.7 % of respondents reported that they had ever used a condom in jail (Knox L., Lane C., 2005). Because data on the percent of sex acts protected by condoms are not available and because condoms are considered contraband and are not permitted in jail unless there is an approved distribution program in place, the modeling assumes none of the sex acts would be protected in the scenario without a condom distribution program.
The prevalence of HIV in the inmate population is an important parameter in the analysis. In the 2007 survey, 32 % of respondents reported being HIV positive (Harawa N.T., Sweat J., George S., Sylla M., 2010). In contrast, a voluntary screening program conducted in the MSM unit in 2000 and 2001 found that only 13.4 % of inmates tested positive for HIV (Javanbakht M., Murphy R., Harawa N. T., 2009). The authors of that study note that the true HIV prevalence rate in the MSM unit is likely much higher because the screening program is voluntary and some inmates who already know their

This document as well as the harmreduction.eu website, was created within the joint action '677085 / HA-REACT,' which has received funding from the European Union's Health Programme (2014-2020).

HIV status decide against testing during intake into the unit because they are already aware of their status (Javanbakht M., Murphy R., Harawa N. T., 2009). Therefore, we use the 32 % prevalence rate in the base case for both scenarios, but test the 13.4 % rate and a 40 % rate in sensitivity analyses.

Calculating Infections Averted by Condom Distribution

The number of infections averted is calculated as the difference between the infections predicted by a mathematical model as occurring when condom use is at the level observed in the K6G unit in 2007 and when condoms are not available to inmates.
The number of infections averted was calculated as the difference in an individual's probability of infection when condoms are available and when they are not multiplied by the number of sexually active, uninfected inmates who were in the unit for at least one month (N = 69 for the scenario with condom availability; N = 52.5 for the scenario with no condoms, because the proportion sexually active is assumed lower).
The mean jail stay lasted 87 days for inmates who were incarcerated for at least a month, thus inmates could be exposed to HIV for multiple months. For inmates who were initially HIV negative, we calculated the probability of remaining uninfected over a 3-month jail stay, by raising the probability of remaining uninfected in one month to the power 3.

Calculating Net Costs

We calculate the net cost of the condom distribution program, including both intervention costs and the HIV treatment costs averted if HIV transmission is reduced. A societal perspective is employed—that is, all costs (without reference to source of funds) and benefits (no matter to whom they accrued) were considered. Since the intervention was conducted in jail, productivity losses and the value of inmate time were not included. The lifetime cost of HIV treatment over a 32.1 year period, discounted to the time of infection, is $303,100 in 2004 $ (Schackman B.R., Gebo K.A., Walensky R.P., Losina E., Muccio T. Sax P.E. Weinstein M.C., 2006). This number was adjusted to $367,121 in 2009 $ using the medical care component of the Consumer Price Index (*US Census Bureau. Consumer price indexes (CPI-U) by major groups*. Available at: http://www.census.gov/library/publications/2010/compendia/statab/130ed.html).

This document as well as the harmreduction.eu website, was created within the joint action '677085 / HA-REACT,' which has received funding from the European Union's Health Programme (2014-2020).

Intervention costs (including time spent by jail staff, transportation, material, facility, and other costs) were reported by CHJ and adjusted to 2009 $.

Net expected costs were calculated by subtracting predicted medical costs averted per month from monthly intervention costs. Averted medical costs were calculated as the product of number of infections averted and the present value of future HIV treatment costs. Sensitivity analyses tested the effect of doubling the cost of the intervention and increasing the cost tenfold.

CONCLUSION

The total cost of the intervention was $994 per month in 2009 $, most of which (86 %) is accounted for by personnel costs. In the base case, .8 new infections per month would be expected in the absence of a condom distribution program. With condom distribution, the incidence rate falls to .6 per month. That is, the intervention averts .2 infections per month. More HIV infections are averted if the HIV prevalence in the inmate population is higher and at higher rates of transmission. Greater numbers of infections are averted at higher rates of condom effectiveness (90 vs. 66.7 %), if condoms are used for a larger share of the anal sex acts (60 vs. 40 %) and if a greater proportion of inmates engage in sexual activity in the absence of a condom program. Results were sensitive to assumptions about the level of sexual activity in the absence of condom availability. Condom distribution reduces HIV incidence rates if we assume equal rates of sexual activity in the scenarios with and without condom distribution. HIV transmission remains unchanged or falls when 30 or 40 %of inmates are sexually active in the absence of condom distribution. However, incidence rates are lower in the nocondom scenario if we assume that only 28.5 % of inmates are sexually active in the absence of condoms.

Using base case parameters, we estimate that the probability that an individual HIV-negative inmate who is sexually active in jail becomes infected falls from 1.6 to .9 % each month when condoms are available. During an average 3 month stay, the probability falls from 4.6 % without condoms to 2.6 % if condoms are available in jail.

Over the course of an average 3 month stay in a unit without condom distribution, we predict 2.4 new HIV infections among the nearly 53 sexually active inmates who were HIV-negative at the start of their jail stay. When condoms are available, this number falls

This document as well as the harmreduction.eu website, was created within the joint action '677085 / HA-REACT,' which has received funding from the European Union's Health Programme (2014-2020).

to 1.8 new infections among 69 inmates. Thus, .6 infections over 3 months would be averted by a condom distribution program.

Discussion

The LA Jail condom distribution program was estimated to avert 25 % of HIV transmissions among inmates in the K6G unit, reducing the number of new infections from .8 to .6 per month. The greatest reductions occur when the underlying probability of transmission is greater (high HIV prevalence among inmates; more unprotected sexual activity in the absence of a condom distribution program, and higher HIV transmission probability per act).

An innovation of this analysis was allowing for an increase in the amount of sexual activity among jail inmates when condoms are available to them. If the model had assumed that the frequency of sexual activity remained unchanged after the introduction of condom distribution in correctional settings, as several reports in the literature suggest (Sylla M., Harawa N.T., Grinsted-Reznick O., 2010; Knox L., Lane C., 2005; Yap L., Butler T., Richtus J., Kirkwood K., Grant L., Saxby M., Ropp F., Donovan B., 2007), our model would have predicted even greater reductions in transmission than our base case suggests. Our sensitivity analysis showed that all but one of the assumptions we tested resulted in fewer HIV transmissions. That one exception assumed that just 28.5 % of inmates would be sexually active in the absence of condoms. The fact that the 28.5 %rate was based on a 2001 convenience sample and that the literature generally shows that inmates' sexual activity does not change following condom distribution (Sylla M., Harawa N.T., Grinsted-Reznick O., 2010; Knox L., Lane C., 2005; Yap L., Butler T., Richtus J., Kirkwood K., Grant L., Saxby M., Ropp F., Donovan B., 2007), lead us to conclude that condom distribution reduces HIV transmission under the most plausible assumptions.

Although our model predicts substantial reductions in new HIV transmissions, some are still expected to occur. Modeling shows that the intervention could have averted a greater number of infections and been even more costsaving, had 60 % of the sex acts been protected, rather than the reported 51 %.

The discounted lifetime cost of treating HIV is high, so even small reductions in HIV transmission result in cost savings to society. Modeling using the base case parameters indicates that condom distribution in a segregated MSM unit at the Los Angeles County

This document as well as the harmreduction.eu website, was created within the joint action '677085 / HA-REACT,' which has received funding from the European Union's Health Programme (2014-2020).

Men's Jail is a costsaving intervention (that is, intervention costs are more than offset by future HIV/AIDS-related medical care costs avoided) when condoms are used 51 % of the time. Thus the intervention meets a higher economic threshold for acceptance than cost-effectiveness (where net intervention costs are positive but are considered reasonable, or low enough, relative to the benefits).

The cost of the intervention in the LA County jail was very modest, and the intervention remained cost-saving even if costs were ten times higher than observed. Inmates stay in jails for short periods of time and then are released back to the community, so the benefits of the reduced HIV transmission accrue to society as a whole. Our estimates of the condom distribution program's cost saving to society would be even greater had we accounted for the reduction in future transmission of HIV by inmates who avoid infection because of condom use in jail and the benefit of preventing other sexually transmitted infections.

Although condom distribution in jails would benefit society, i.e., reduce costs in the long run, it may be difficult for the financially strapped jail systems to commit the resources necessary for this cost-saving intervention. Given that the benefits accrue to society at large, there is a compelling argument for public health funding of these initiatives.

The fact that the Los Angeles Jail restricts the number of condoms provided to one condom per week per inmate may have limited the share of inmates' sex acts that could be protected (Harawa N. T., Sweat J., George S., Sylla M., 2010). Our cost analysis suggests that the costs of distributing additional condoms in jail would be minimal; therefore, we recommend that Los Angeles County consider increasing or eliminating its limitations on the number of condoms distributed per week in order to avert even greater numbers of HIV infections.

Limitations

There was little information available on the amount of sexual activity that would have taken place in the absence of a condom distribution program. Although several studies support that condom distribution does not increase the amount of sexual activity in jails or prisons, we conducted several sensitivity analyses to test the effects of different assumptions about the percent of inmates with sexual activity in the absence of a condom distribution program. With one exception, these analyses as well as those

This document as well as the harmreduction.eu website, was created within the joint action '677085 / HA-REACT,' which has received funding from the European Union's Health Programme (2014-2020).

assuming lower numbers of encounters per month showed the program remained cost-saving.

A limitation of the analysis, similar to many other published economic evaluations of HIV-prevention behavioral interventions, is the assumption that HIV infections avoided during the brief period when the intervention is in place represent infections prevented forever. Some of these infections are not prevented, merely delayed (Pinkerton S.D., Chesson H.W., Holtgrave D.R., Kassler W. Layde P. M., 2000). However, because nearly 60 % of sexually active inmates reported using condoms in the month prior to being incarcerated, we can expect that much of the sexual activity after release from jail would be protected. The high prevalence of HIV among inmates in the K6G unit means that the risk of infection for an HIV-negative inmate is greater while in jail than when released. Further, the high recidivism the 2007 survey indicated that the average inmate had had 7 prior incarcerations enhances the importance of providing protection for sexual activity within jails. The public cost of HIV treatment will decline even if HIV infection is simply delayed and not permanently averted, because the present value of future treatment costs is lower if those costs are delayed to a future date.

The analysis may have understated the cost of condom distribution because the program was carried out very inexpensively in the Los Angeles jail unit by a non-profit organization, which may not be available in other settings. If the intervention were carried out by jail staff, the cost of delivering the intervention might increase. However, our sensitivity analysis showed that even if costs were higher by a factor of ten, the intervention would still be cost-saving.

The base case in our analysis used an estimate of HIV transmission probability per sex act (.005) at the low end of the range of estimated probabilities for receptive anal intercourse (.005–.03) reported by Mastro and de Vincenzi (1994) to counter not being able to explicitly account for other factors that may lower transmission rates. These factors include protective actions, other than condom use that inmates may have undertaken, such as serosorting or seropositioning, on which no information was available in the 2007 survey. Serosorting has been associated with a small decrease in HIV transmission (odds ratio = .88), but in a jail population, the protective effect of such measures is limited because inmates often assess whether a potential partner is HIV-positive based on unreliable information (e.g., receiving special diet meals). Further, HIV-positive respondents frequently reported sex with partners of unknown serostatus.

This document as well as the harmreduction.eu website, was created within the joint action '677085 / HA-REACT,' which has received funding from the European Union's Health Programme (2014-2020).

Seropositioning has not been found to be significantly related to HIV transmission probability. Additionally, our estimates did not account for lower transmission rates for inmates receiving ARV treatment (Attia S., Egger M., Muller M., Zwahlen M., Low M., 2009). However, relying on treatment as prevention would not provide protection against other STIs that are prevalent in the Jail, and that increase HIV transmission rates. To guard against the lack of data on other risk-reducing behaviors such as serosorting or the protective effect of ARVs on HIV transmission or taking only the insertive role, sensitivity analyses tested a low transmission rate (.06 %/act). The intervention remained cost-saving even under this assumption.

HIV prevalence was high among inmates of the K6G MSM unit and sexual activity was frequent. Thus, while condom distribution was clearly cost saving for this unit, further analyses would be needed to determine the costeffectiveness of a condom distribution program in a jail or prison unit housing a general population of inmates where these factors may be substantially lower.

This document as well as the harmreduction.eu website, was created within the joint action '677085 / HA-REACT,' which has received funding from the European Union's Health Programme (2014-2020).

REFERENCES

Attia S., Egger M., Muller M., Zwahlen M., Low M. (2009). Sexual transmission of HIV according to viral load and antiretroviral therapy: systematic review and meta-analysis. AIDS 23(11), p. 1397-404.

Harawa N.T., Sweat J., George S., Sylla M. (2010). Sex and condom use in a large jail unit for men who have sex with men (MSM) and male-to-female transgenders. J Health Care Poor Underserv. 21(3), p. 1071-1087.

Knox L., Lane C. (2005). CorrectHELP condom survey uncorrected summary report, December.

Javanbakht M., Murphy R., Harawa N. T. (2009). Sexually transmitted infections and HIV prevalence among incarcerated men who have sex with men, 2000-2005. Sex Transm. Dis. 36(2), p. 17-21.

Philipp S. S., Yu X., Donnell D., Vittinghoff E., Buchbinder S., 2010

Pinkerton S.D., Chesson H.W., Holtgrave D.R., Kassler W. Layde P. M. (2000). When is an HIV infection prevented and when is it merely delayed? Eval Rev. 24, p. 251-271.

Schackman B.R., Gebo K.A., Walensky R.P., Losina E., Muccio T. Sax P.E. Weinstein M.C. (2006). The lifetime cost of current human immunodeficiency virus care in the United States. Med Care. 44 (11), p. 990-997.

Sylla M., Harawa N.T., Grinsted-Reznick O. (2010). The first condom machine in US jail: the challenge of harm reduction in law and order environment. Am J Public Health 100, p. 982-985.

de Vincenzi, I. (1994). For the European Study Group of Heterosexual Transmission of HIV, *A Longitudinal Study of Human Immunodeficiency Virus Transmission by Heterosexual Partners*, N. Eng. Med 331, p. 341-346

Yap L., Butler T., Richtus J., Kirkwood K., Grant L., Saxby M., Ropp F., Donovan B., (2007). Do condoms cause rape and mayhem? The long-term effects of condoms in New South Wales prison. Sex Transm Infect. 83(3), p. 219-222.

This document as well as the harmreduction.eu website, was created within the joint action '677085 / HA-REACT,' which has received funding from the European Union's Health Programme (2014-2020).