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Correctional Health Promotion and Health Education Initiatives: A Review of the Literature

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Correctional Health Promotion and Health Education Initiatives: A Review of the Literature

Amanda Nolan

&

Lynn A. Stewart

Correctional Service of Canada

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Executive Summary

Key words: *Offender health education programs, offender health promotion, correctional health education*

The objective of the Correctional Service of Canada's (CSC's) public health program is "to provide public health services to federal offenders in order to prevent and control disease and promote good health within federal institutions." The public health strategy for 2010-2015 is comprised of seven strategic areas, one of which, health promotion and health education, is of primary interest to this report. The goal of this particular strategic area is to ensure dissemination of health promotion materials to all offenders, and to broaden their content to include healthy lifestyle behaviours, risk factors for chronic and infectious diseases, and health needs specific to certain groups. The Health Services Sector currently provides several initiatives related to health promotion and health education. For example, material presented on TV monitors in CSC clinics have been used provide health information to offenders while incarcerated. In addition, the Reception Awareness Program (RAP), the Peer Education Course (PEC), and the Aboriginal-Peer Education Course (APEC) are other key initiatives.

The purpose of this report was to provide a summary of the existing literature relevant to brief offender health promotion and health education initiatives. This information can be incorporated into future plans to develop and revise health promotion programs within CSC.

An academic literature review and environmental scan of various health education and awareness interventions implemented with offender populations outside of CSC was conducted. Results revealed that all reviewed health education formats, including self-directed, case management, outreach clinics, peer counselling, and prison-based education and awareness sessions, reported some level of improvement in health knowledge and more proactive attitudes toward health behaviours. To a lesser extent, offenders participating in several of these initiatives also demonstrated better compliance with health promotion behaviours. No information was identified that assessed the effectiveness of using TV monitors to provide continuous health information in clinics and waiting rooms. The decision as to which format to implement depends on the resources and the circumstances of the agency. Promising practices regarding content and targets, delivery setting and format, and implementation were summarized.

Overall, the key message of this literature review was that well-designed, evidence-based health awareness interventions play an important role in a comprehensive correctional health services menu. This is pertinent given the importance of addressing high-risk behaviours in reducing negative health outcomes among offenders.

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Introduction

The correctional health literature indicates that offenders have higher rates of infectious diseases, chronic diseases, and physical and psychiatric disorders relative to the general population (Fazel & Baillargeon, 2011; Harris, Hek, & Condon, 2007; Robert, 2004; Wilper et al., 2009). Results of two comprehensive international studies highlight which conditions are particularly elevated in inmate populations relative to the general population (Indig et al., 2010; National Commission on Correctional Health Care, 2004). The most prevalent chronic conditions among Australian male offenders were asthma, back problems, and hypertension (Indig et al., 2010). In the U.S., a study extrapolated on data collected from various databases estimated the prevalence of acquired immunodeficiency syndrome (AIDS) among inmates to be 5 times higher than among the general US population, the prevalence of hepatitis C to be 9 to10 times higher, and the prevalence of active tuberculosis (TB) between 4 and 17 times greater (National Commission on Correctional Health Care, 2004). Age-adjusted estimates of prevalence rates for some chronic diseases such as hypertension, diabetes, asthma, and arthritis in prisoners are also higher than in the general American population (Wilper et al., 2009). A recent study examining the self-reported physical health status of incoming Canadian federally-sentenced men (Stewart, Sapers, Nolan, & Power, 2014) and women offenders (Nolan & Stewart,2014) found rates of chronic health problems lower than those cited in the American (Fazel & Baillargeon, 2011) and Australian (Indig et al., 2010) research with correctional samples. The study confirmed, however, earlier research on infectious diseases within the Correctional Service of Canada (CSC) that found that men and women in the federal correctional system had higher rates of blood-borne viruses than the general adult population (Thompson, Zakaria, & Grant, 2011). Among offenders entering CSC, about 60% of the women and half of the men were overweight or obese as measured by their body mass index; one-quarter of men over 50 reported they had been diagnosed with hypertension (Stewart et al., 2014; Nolan & Stewart, 2014). Preliminary analyses determining which subgroups of men offenders within the CSC population had poorer health indicated that men over 50 years of age reported higher rates of diabetes, prostate problems, cardiovascular problems, and arthritis than those under 50; Aboriginal men reported higher rates of blood-borne viruses and head injury than non-Aboriginal men, and men

with histories of intravenous drug use (IDU) had higher rates of blood-borne viruses than those who did not report IDU (Stewart et al., 2014).

Several factors may explain the finding of poorer health for offenders, including that offenders engage in more high-risk health behaviours and have a greater likelihood of being involved in activities that can result in physical injuries than members of the general population. Adverse social determinants such as poverty, low educational attainment, substandard housing, and unemployment or underemployment are also more common among offender populations. In a recent study of social determinants of health among Canadian federal offenders, a history of being a victim of child abuse and of receiving social assistance were consistently found to be related to poorer physical health (Stewart, Nolan, Thompson, & Sapers, manuscript submitted).

Institutional correctional settings may provide a unique opportunity to target a population with health promotion initiatives for groups who would otherwise be hard to reach in the community (Wright et al., 2011). Indeed, the correctional system may provide an environment that supports good quality health assessment, treatment, and education. It is also important for correctional facilities to address offenders' health issues during incarceration because untreated conditions can exacerbate difficulties associated with reintegration into society (Leitzell, Madrazo, & Warner-Robbins, 2011; Mallik-Kane & Visher, 2008). The optimization of inmate health care can promote offender safety and security within both correctional facilities and in the community on release (Thompson et al., 2011). Furthermore, it has been pointed out that good prison health is essential to good public health and that prisons can contribute to the health of communities by helping to improve the health of some of the most disadvantaged people in society (World Health Organisation (WHO), 2007, p. 2).

The right of prisoners to good quality health care has been enshrined in Article 12 of the International Covenant on Economic, Social and Cultural Rights (United Nations, 1966). Canada is a signatory to this charter. The WHO has published a report outlining steps correctional systems should take to reduce the public health risks from compulsory detention, to care for prisoners in need, and to promote healthier lifestyles during the offenders' time in custody. Among their recommendations are: set up health promotion groups; introduce information and health days focusing on drug use, alcohol, nutrition, infectious diseases, violence and gender-specific issues; conduct non-smoking training; improve nutrition during working hours, such as

fruit during canteen meals; ensure that colleagues can consult on problems and crises; and set up help structures after special incidents and stress-related illness.

Over the last decades health education initiatives have been widely implemented in the general population and, as a result of research, the knowledge base on effective approaches has grown and the characteristics of effective health communication campaigns are well-established. As noted by the U.S. Department of Health and Human Services, successful health communication programs involve more than the production of messages and materials; they apply research strategies to test and validate the effectiveness of material and content for the intended audiences (U.S. Department of Health & Human Services, 2004). This agency has produced a comprehensive handbook that guides the effective design and implementation of health education campaigns. Other documents providing advice on mounting successful large scale health education or chronic disease self management initiatives are available, though they are not tailored to correctional audience (e.g., Atkin, 2002; Jordan & Osbourne, 2007).

The purpose of this paper is to provide a summary of the existing literature relevant to brief and effective offender health promotion and health education initiatives. This information can be incorporated into future plans to develop health promotion programs within CSC. The paper begins with a brief summary of the health services currently provided by CSC. An overview of the various types of health education and awareness interventions that have been developed and/or implemented with offender populations is then provided based on a review of the academic literature and practices in other correctional jurisdictions. Basic information on those initiatives that have demonstrated success in improving offenders' health knowledge and/or health compliance behaviours is presented. It should be noted that the scope of the present literature review was restricted to general issues of physical health and healthy behaviours and did not cover health initiatives related to issues of mental health.

CSC Offender Health Context

Critical to deciding on the approach and content of health education and compliance programs is the identification of the goals of the campaign and the choice of health conditions that should be targeted for improvement in knowledge and behaviour change. CSC has recently surveyed incoming offenders to establish rates of chronic health conditions. Among men, conditions that were found at rates higher among offenders than in the general population are blood-borne viruses and head injury (Stewart et al., 2014). Offenders with higher rates of these conditions are those involved in IDU and those reporting higher rates of substance abuse in general. CSC offenders are, on average, younger than the Canadian population so rates of hypertension and other common chronic diseases are not currently as high as they can be expected to become as the offenders age. Rates of overweight and obesity as measured by the BMI index are elevated with over half of federal men and women offenders being defined as overweight. At intake, among men over 50 years old, one-quarter report that they had been diagnosed with hypertension. Rates of substance abuse among federal offenders are also elevated, with 60% of men rated as having a moderate or high need in this domain; rates are higher among the women. Among Aboriginal women 94% had moderate or high needs in the substance abuse domain. Adverse social determinants, particularly a history of childhood abuse as well as indicators of poverty such as being on social assistance, are associated with a host of health conditions among incoming CSC male offenders (Stewart et al., manuscript submitted).

Among women offenders at CSC, a recent survey of incoming women (Nolan & Stewart, 2014) confirmed an earlier study that identified elevated rates of blood-borne viruses (Thompson et al., 2011). In addition, women also had higher rates of asthma, back pain, and obesity than found among women in the general Canadian public. Of concern are findings of another recent CSC study reporting on substance abuse patterns among federally sentenced women. The researchers found 18% of women in CSC reported having used alcohol during pregnancy; 22% reported having used drugs, and 28% reported using either alcohol or drugs. Sadly, of federal women who reported drinking during pregnancy, 21% said they had already had a child who had been diagnosed with Fetal Alcohol Spectrum Disorder (FASD) (Gobeil, Farrell-MacDonald, & Ritchie, manuscript under approval). The study indicated that a factor associated with a greater likelihood to use substances during pregnancy including having friends and partners who use

alcohol or drugs. In one study, substance abusing women who were pregnant or mothers reported getting little support from their partners to reduce or stop substance abuse; in fact, partners for some women actively tried to prevent them from getting help (Poole & Isaac, 2001). Other factors shown to be associated with risky sexual behaviour among incarcerated women are a history of experiencing intimate violence (Ravi, Blankenship, & Altice, 2007) and co-occurring substance abuse (Harris et al., 2003).

With respect to other health behaviours, the physical health conditions survey indicated that offenders within CSC report that they exercise (at least at some level) at rates as frequent as reported by individuals in the Canadian population; self-reported smoking rates of around 20%, are also on par with the general population, although somewhat higher among Aboriginal women offenders (Stewart et al., 2014). It should be noted, however, that the indicator of whether offenders are smoking used in CSC may reflect their current situation given that there is a smoking ban in federal prisons, and not the offenders' history of smoking or intent to smoke on release. Previous research based on the results of a large scale inmate survey indicated that knowledge of HIV/AIDs was quite high among at-risk offenders (Zakaria, Thompson, & Borgotta, 2010). It appears that many offenders would have had exposure to this information either prior to or during their incarceration. Despite this, provision of education materials that include information on risks associated with HIV/AIDS and HCV, and, in particular, information on services available to those at risk or seropositive may serve to reinforce compliance with healthier behaviours.

CSC Health Services

CSC is legislated by Section 86 of the Corrections and Conditional Release Act (CCRA) to deliver essential health care to inmates. CSC's Commissioner's Directive (CD) 800 (CSC, 2011a) sets out the operational requirements of institutions to provide access to essential medical, dental, and mental health services and specifies the requirement for informed consent and the provision of drugs and medical supplies. Additionally, guidelines and manuals detail the operational level requirements and clinical elements of specific health services and programs (e.g., Management of Viral Hepatitis Guidelines, CSC, 2011c).

Recognizing the potential for the transmission of diseases within the institutional

environment and the opportunity to improve offender health, CSC has developed a public health strategy (CSC, 2011b). More specifically, the objective of CSC's public health program is "to provide public health services to federal offenders in order to prevent and control disease and promote good health within federal institutions." The public health strategy for 2010-2015 is comprised of seven strategic areas: 1) infectious disease prevention, control and management, 2) health promotion and health education, 3) surveillance and knowledge sharing, 4) Aboriginal and women offender health, 5) healthy environments, 6) public health competencies, and 7) visibility and accountability. Of primary interest to the present paper is the area of "health promotion and health education." The goal of this particular strategic area is to ensure dissemination of health promotion materials to all offenders, and to broaden their content to include healthy lifestyle behaviours, risk factors for chronic and infectious diseases, and health needs specific to certain groups (CSC, 2011b).

The Health Services sector of CSC currently provides several initiatives related to health promotion and health education. Health information is currently provided on TV monitors in some institutions, replacing posters, newsletters, and an inmate health handbook. The Health Services sector also provides the Reception Awareness Program (RAP), the Peer Education Course (PEC), and the Aboriginal-Peer Education Course (APEC) (CSC, 2013). The primary purpose of the RAP is to provide newly-admitted inmates with information on prevention of infectious diseases and health services available to them in CSC. The purpose of the PEC is to train offenders to become peer supports for other offenders, and the APEC is similar to the PEC program but uses a culturally sensitive approach to providing peer support to Aboriginal offenders.

Review of Offender Health Promotion and Health Education Initiatives

In reviewing the available academic literature, we found that the vast majority of reports or research on offender-specific health education initiatives focused on infectious diseases, particularly HIV prevention and risk reduction. There was a scarcity of health promotion literature related to other health conditions. Only a few articles were found that described health topics such as overall wellness, nutrition, and fitness. A compilation of the journal articles reviewed, including location of service delivery, health topic covered, time in the sentence when intervention is delivered, format of instruction, a brief description of the intervention, and

whether the interventions had empirical support is presented in Table A1 in the Appendix. Two pieces of work were particularly informative given they provided a systematic review of the evidence. We have separately included a summary of their conclusions.

With respect to the method of intervention delivery, the literature indicated that a variety of formats and types of instruction have been used to implement correctional health promotion initiatives. Formats of delivery include: interventions that were self-directed (e.g., computer programs, interactive videos, pamphlets), involvement in institutional health clinics (e.g., providing counselling, referrals, testing, etc.), case management sessions, and group sessions. The intensity of the interventions varied. Some initiatives were very brief, involving only one session, while others were offered over several weeks. Type of instruction also varied: some programs were self-directed, some were delivered by staff members and/or professionals, and some were delivered by trained peer-educators. The majority of the interventions were programs for incarcerated offenders, rather than individuals on probation or conditional release. Many of the articles did not report on at what point during an offender's sentence the health initiative was offered. Of those that did identify timelines, the majority were offered during a period close to offenders' release dates.

Results of a brief environmental scan of health practices in other correctional jurisdictions revealed a general lack of specific information on health promotion initiatives. Nonetheless, many of the correctional jurisdictions that were reviewed did indicate they offered services such as courses/programs, pamphlets/posters, information packages, and peer-education. A list of the correctional jurisdictions that were reviewed, along with a brief description of health promotion/education initiatives are presented in Table A2 in the Appendix. The findings of two systematic reviews and meta-analyses are separately summarised at the end of this section.

Intervention Delivery Format

Self-directed. Two of the health interventions reviewed were brief and self-directed. One of these examined the effects of a brief motivational intervention on reducing HIV-risk and increasing HIV testing among offenders who were under community supervision (Alemagno, Stephens, Stephens, Shaffer-King, & White, 2009). The intervention was a single-session lasting just 20 minutes during which an offender used a "talking laptop" computer. The intervention was designed to assess the participants' perceived interest in, and obstacles to, engaging in, or

maintaining, behaviour change, and their overall perception of infectious disease risk. It focused on risks associated with injection drug use and unprotected sex. Responses prompted specific intervention videos tailored to individual risk that acted as a brief counselling session. At the two-month follow-up, the authors found that offenders in the experimental group were significantly more likely than offenders in the control group to report that they had been tested for HIV, as well as being more likely to say they wanted to make changes to reduce their risk of HIV/AIDS. This follow-up is important as jail-based interventions are limited and the community resources must be used in order for HIV-prevention to be successful.

Fish et al. (2008) examined the efficacy of educational videotapes supplemented with comic book style pamphlets that were used to improve knowledge, information retention, attitudes, and requests for testing for communicable diseases among prison inmates at a reception centre in New York State. Based on feedback from participants and comparative rates of testing requests between the treatment and control groups, the authors concluded that the intervention comprised potentially useful tools, participants' knowledge increased, and there was a high level of satisfaction among inmates who received this educational approach.

Use of videos in non-correctional settings. Given that CSC is using TV monitors as one key method to convey health information, we examined the literature on the efficacy of this modality. We could not identify specific research using this method in correctional settings. There is, however, research reporting on using videos for this purpose for general populations. Most of this work was not focussed on the use of TV monitors where a continuous loop of information was provided in a public setting; rather, the situations involved directing individuals' attention to a video and their response was compared to those who were not exposed to the video. For example, Downs et al. (2004) evaluated the impact of interactive video intervention in reducing STD risk among adolescent females. The participants were randomly assigned to the video-only group or one of the two comparison groups: the same STD content in book form or brochure form. Self-reports found that those assigned to the video-only group were significantly more likely to be abstinent in the first three months following initial exposure of intervention. After six months of enrollment, participants in the video-only group were significantly less likely to report a STD diagnosis. Earlier studies also found video exposure to be an effective method to convey health information. Healton & Messeri (1993) reviewed eight intervention studies that investigate patient education and treatment adherence in the sexually transmitted disease clinic

setting using meta-analytic procedures compare video exposure to other modes of health education on knowledge and attitudes about STDs and condoms, and treatment compliance. Large effects were found for videos on knowledge and attitudes about STDs and condoms, but lower effects were found on measures of treatment compliance. Another study assessed the impact of video-based sexually transmitted disease patient education on condom acquisition among men and women in a sexually transmitted disease clinic (O'Donnell, San Doval, Duran, & O'Donnell, 1995). Patients were assigned to one of three groups: control, video, or video and interactive group discussion. Participants in the video-only group were assigned to view one of two 20-minute videos. Participants were given a coupon to redeem condoms at a pharmacy in close proximity to the clinic. The level of intervention was based on rates of condom acquisition. In comparison with the control group, a significantly greater proportion of participants in the video-only group redeemed the coupon for condoms at the local pharmacy. The video plus interactive group discussion had the highest proportion of participants redeeming coupons for condoms. In a similar study, researchers again examined the efficacy of a video-based educational intervention in a sexually transmitted disease clinic. Participants were randomly assigned one of three groups: video-based educational intervention, video-based education intervention followed by group discussion, or a control group who received regular clinic services. It was found that rates of new infection were significantly lower for those in the video-based prevention education group compared to the control group (23% vs. 27%). There was no significant difference between the video-only group and the video and discussion group (O'Donnell, O'Donnell, San Doval, Duran, & Labes, 1998).

The use of TV monitors to convey public health information has been included as part of large-scale public health awareness programs (Atkin, 2002), but we could not identify literature that assessed their impact as a stand-alone intervention, whether in correctional or public health campaigns.

Case management/counselling. Several articles described health promotion initiatives that use a case management/counselling approach. For instance, Bauserman and colleagues (2003) examined Maryland's Prevention Case Management (PCM) program, which provides individual or group counselling to inmates close to release to promote changes in risk behaviour and HIV prevention. Overall, the researchers found significant, positive changes in self-reported attitudes toward condom use, self-efficacy for condom use, self-efficacy for injection drug use

risk, self-efficacy for other substance use risk, and intentions to practice safer sex post-release.

Another HIV case management program for men and women leaving prison titled "Get Connected", involved a case manager who worked with offenders before and after release to deliver a client-centered needs assessment, individualized care and treatment planning, facilitation of referrals to community resources, liaison with parole agents, and HIV-risk reduction education and counselling (Myers, Zack, Kramer, Gardner, Rucobo, & Costa-Taylor, 2005). Program effects were measured by assessing changes in risk behaviour, access to services, reincarceration, and program completion. As noted by the authors, although response rates precluded definitive conclusions, HIV-risk behaviour decreased (particularly unprotected sex and drug use during sex).

A new case management initiative described in the literature is MOMS Plus, a program offered to incarcerated substance abusing pregnant women (Lorenzen & Bracy, 2011). This program was included in our review because of the relevance of its goals, although there are, as of yet, no published outcome studies examining its effectiveness. This program aims to: improve pregnancy outcomes, increase participation in substance abuse treatment, and reduce recidivism. It encourages involvement in prenatal care and substance abuse treatment and reducing the need for child protective services involvement.

Clinics. In the United Kingdom, researchers evaluated a prison clinic provided through outreach of community health programs for the diagnosis and prevention of hepatitis C (HCV; Skipper, Guy, Parkes, Roderick, & Rosenberg, 2003). This clinic was led by a nurse specialist who offered health education, advice on harm minimization, and HCV testing. Outcome measures were rates of uptake of the service, and diagnosis and treatment of HCV. Results revealed that a total of 8.5% of 1,618 prisoners accepted testing, 30% of whom had active HCV infection. However, most were ineligible for treatment due to psychiatric illness or did not receive treatment for logistic reasons. The authors noted that the clinic provided an opportunity for intervention, but had a limited effect in eradicating HCV.

Asl et al. (2013) assessed the outcomes of a triangular[1] clinic used as a harm reduction measure in an Iranian prison. This clinic provided counselling, education, referral services, and methadone maintenance therapy. Findings revealed a modest reduction in drug use based on

[1] Triangular clinics deal with three frequently overlapping issues: injecting drug use through harm reduction, the treatment of sexually transmitted infections, and care and support for people living with HIV.

urinalyses as well as a reduction in self-reported risky behaviours associated with drug use and sexual practices. The authors concluded that such clinics are a possible effective intervention, although they noted that many prisoners continued with risky behaviors even if they were participating in harm reduction measures, such as methadone maintenance therapy.

Workshops/sessions. The "Beyond Fear" education program is a weekly prison-based group program designed to increase HIV education and encourage HIV prevention behaviours among inmates (Bryan, Robbins, Ruiz, & O'Neill, 2006). All participants were members of HIV prevention education groups within their prisons. Inmates included African American, Hispanic and Caucasian offenders housed in one maximum-security and two minimum security facilities. The program aims to address knowledge, fears, perceptions, beliefs, and concerns about HIV and to promote the training of inmate HIV/AIDS peer educators. The goal was to change attitudes towards HIV prevention and intention to engage in prevention behaviours post-release. The Beyond Fear program is based on social cognitive theory, the health belief model, cultural sensitivity principles, and problem solving. The program has five objectives: 1) to educate inmates about HIV transmission, prevention, and infection; 2) to discuss common myths about HIV antibody counseling and testing and resources available to them if they want to be tested or need additional health services; 3) to increase inmates' ability to anticipate high-risk situations by discussing possible situations that can lead to HIV exposure and sharing personal anecdotes of situations in which they may have been at risk; 4) to increase self-efficacy for HIV prevention by role-plays in which inmates practice identifying, addressing, and overcoming those barriers to change; 5) Finally, the program encourages inmate peer educator behaviours. An examination of the efficacy of the program concluded that it was successful at influencing beliefs and behaviours related to peer-education and beliefs and intentions related to condom use.

Grinstead, Zack, and Faigeles (2001) assessed the efficacy of a pre-release intervention for HIV seropositive inmates in decreasing sexual- and drug-related risk behaviour and increasing use of community resources after release. The pre-release intervention was comprised of eight-sessions delivered in a presentation-style that were followed by a question and answer period and discussion. The topics of the eight sessions within each series included: 1) HIV information; 2) HIV treatment update; 3) substance use and HIV; 4) Sexuality and HIV; 5) "Pain to power" (inspirational speaker); 6) Nutrition and HIV; 7 & 8) community service referrals. During the seventh and eighth sessions, service providers met with participants to provide

information on local services and to make appointments for postrelease. Providers represented services for HIV seropositive people (e.g., case management, support groups, financial assistance) as well as alcohol/drug treatment, educational and vocational training programs. Participants were 121 inmates who had tested positive for HIV, most of them while in prison. The majority of participants were African American. Descriptive results revealed that, compared with men who signed up for the intervention but were unable to attend, men who received the intervention reported more use of community resources and less sexual and drug-related risk behaviour in the months following release.

Motivational-based interventions applying the Transtheoretical Model of stages of change have been frequently used to encourage health compliance behaviours. Ko et al. (2009) examined the impact of a brief Transtheoretical Model-based HIV education program among drug-dependent inmates in a court-ordered drug abuse treatment center in Taiwan. The purpose of the study was to determine the short-term impact of a brief education program on readiness for change on substance abuse and to evaluate the movement of change in drug-dependent inmates. The education program consisted of a one hour lecture describing the transmission, prevention, symptoms, screening, and treatment associated with blood-borne viral infections and injection drug use. A skill-building section focussed on safe injection, needle cleaning and condom use to promote behavioural change. Prevention messages also included the resources available after release from prison, such as needle exchange programs, detoxification and methadone maintenance therapy. Results indicated positive changes in AIDS/HIV knowledge, self-efficacy to reduce HIV-risk behaviors, and readiness to change substance use.

"Reducing Risky Relationships for HIV" is a program designed to help women offenders in their decision-making process to generate alternatives in order to make healthier and safer decisions about risky sexual practices and drug use (Leukefeld et al., 2012). The intervention consists of prison-based group sessions and one face-to-face or telephone session after community re-entry. The focus groups identified beliefs and assumptions that can decrease a women's ability to avoid HIV-risk. A unique component of this intervention is that it targets specific relationship experiences in order to explore further the reasons for engaging in a risky sexual relationship. A hazardous partner relationship can increase a woman's vulnerability to HIV, and engaging in sex and/or drug use without consideration of the risk factors involved. Seven myths were targeted that presented a risk to women: fear of rejection, self-worth/self-

esteem, drug use, safety, trust, invincibility, and strategy/power. In a three-month follow-up, women in the intervention group were found to be significantly more likely to report overall increased knowledge of HIV-risk behaviours at follow-up.

A pilot intervention designed to improve nutrition among prisoners included multiple nutrition workshops presented by a nurse educator (Curd, Ohlmann, & Bush, 2013). Outcome results revealed that a greater proportion of participants in the nutrition workshops reported improved nutritional practices and improved general health status compared to participants in the control condition. A similar, but more comprehensive, wellness workshop format was implemented by Curd, Winter, and Connell (2007) for offenders involved in a corrections-based therapeutic community to reduce substance abuse. This "Wellness Works" program was developed and implemented as part of an evidence-based strategic plan with short- and long-term goals supported by health promotion activities. This program was based on the idea that one's responsibility for his and his family's health is an appropriate concern for a recovering substance abuser, and that it may even strengthen the recovery process. Basic nutrition education was discussed in these workshops as well as self-management of common chronic diseases, and sharing of individual experiences was encouraged. A community vegetable garden and a resident-produced wellness newsletter also helped to reinforce these nutrition themes. While the majority of participants evaluated the program positively, preliminary analysis of the health risk assessment found no significant changes of reported lifestyles within six months of completion.

Khavjou and colleagues (2007) conducted a study that evaluated the baseline health status of incarcerated women participating in the "WISEWOMAN" (Well-Integrated Screening and Evaluation for Women across the Nation) intervention in South Dakota Women's Prison with the general WISEWOMAN population in South Dakota. The WISEWOMAN intervention provides heart disease screening and intervention services for low income women including blood pressure, cholesterol, and blood glucose testing; referral services; access to medications; and lifestyle interventions to help women develop a healthier diet, increase physical activity, and quit using tobacco (see Will, Farris, Sanders, Stockmyer, & Finkelstein, 2004, or see www.cdc.gov/wisewoman/ for more information). Outcomes of this initiative examined attendance at the intervention sessions, knowledge of health risks related to hypertension and high cholesterol. Results found that prisoners were less likely to be aware of having high cholesterol and high blood pressure than non-incarcerated women in the program.

Encouragingly, attendance at lifestyle intervention sessions was significantly higher among incarcerated participants than among non-incarcerated participants. There is no report of follow-up to determine if there were behavioural changes associated with attendance in the sessions.

The "Tuberculosis (TB) Prevention Project" comprised sessions designed to improve completion of care for latent TB infection (LTBI) in released inmates. A drug therapy treatment is available to those that have LTBI, however, the treatment often extends beyond the time incarcerated, and the number of inmates who were released from jail that went to the TB clinic in their community was very low (White et al., 2003). The education sessions were between 10 and 15 minutes in length and covered a general description of the disease, the testing and diagnosis processes, treatments and community resources. Just over 1,000 inmates were visited at least once over a 2-year period. Barriers to working in a jail were identified and addressed, such as lack of space to hold the sessions, inmate sensitivity to TB status, and disinterest. Outcomes showed that the program improved the rate of community clinic visits from 3% of inmates to the 24% to 37% after participation in the education sessions.

Peer-educators. A common approach reported in the literature is the use of offender peer health educators to help increase knowledge and promote behavioural change. These types of health programs have generally focused on HIV-prevention and -risk reduction (e.g., Grinstead, Zack, Faigeles, Grossman, & Blea, 1999; Ross, Harzke, Scott, McCann, & Kelley, 2006; Scott, Harzke, Mizwa, Pugh, & Ross, 2004; Sifunda et al., 2008; Simooya & Sanjobo, 2001; Zack, Smith, Andrews, & May, 2013), but have also touched on nutrition and fitness improvement (e.g., Martin et al., 2013) and healthy lifestyles promotion (e.g., Minc, Butler, & Gahan, 2007). These programs will not be described individually given that a recent systematic review by Wright et al. (2011, summarized below) examined the overall effectiveness of the interventions.

Meta-analyses and Systematic Reviews

Azhar, Berringer, and Epperson (2014) recently conducted a systematic review of HIV prevention interventions targeting women with criminal justice involvement. Their work included a review of 13 studies published between 1980 and 2014 that met the authors' inclusion criteria. The review is particularly useful in that they analyzed their results by intervention approach, theoretical orientation, and setting of delivery. The overall findings indicated that the interventions are minimally effective at reducing sexual risk and drug use. Interventions

demonstrated moderate effects on increasing HIV/AIDS knowledge. Those that worked best used an explicit theoretical orientation and a social cognitive theory or motivational interviewing orientation. Interventions delivered fully or partially in the community setting were also more effective than those delivered only within a correctional facility. The authors emphasized the importance of providing interventions that consider the contextual and social determinant factors that influence women's sexual behaviour and contribute to HIV-risk. In particular, they point to research has explored the link between HIV-risk among justice involved women and factors such poverty, discrimination, substance use, homelessness, job insecurity, intimate partner violence, and high-risk social networks (e.g., Adimora & Schoenbach, 2005; Blankenship, Smoyer, Bray, & Mattocks, 2005).

Wright and colleagues (2011) provided a systematic review of 10 articles relating to the effectiveness of peer-education programs to promote health and healthy behaviour in prisons, Wright et al. found that results generally demonstrated an increase in knowledge and behavioural intentions among participants. There was less evidence, however, for actual behavioural change. The authors concluded that peer-education in prisons can have an impact on attitudes, knowledge, and behaviour intention regarding HIV-risk behaviour. Their findings, however, were inconclusive for the impact of peer-education on illicit drug use and injecting practices. The authors also noted a scarcity of research that examined the impact of peer-education on obesity, diet, smoking, or chronic physical diseases.

Discussion

The purpose of the present research was to provide a summary of the existing literature relevant to brief offender health promotion and health education initiatives. While there are a number of health awareness and health promotion initiatives described in the literature that have demonstrated positive attitude change and knowledge transfer among participants, there is less evidence that the programs have been associated directly with behaviour change that will promote improvement in health status. Assessing post intervention behavioural change is much a more resource-intensive undertaking. The programs described in this review have been developed and implemented in various settings and, therefore, some may be more relevant to the CSC context than others.

Based on the literature review and environmental scan that was conducted, we offer several promising practices that may warrant consideration regarding the content and targets, delivery setting and format, and implementation of educational and health awareness initiatives. These promising practices take into consideration the following: education and awareness programs that have shown at least some level of effectiveness in changing attitudes or health behaviours, the types of health conditions most prevalent among CSC offenders, and changeable lifestyle behaviours that are most closely associated with offenders' chronic health conditions.

Content and Targets

Given that rates of HIV/AIDs and HCV are higher in correctional populations than in the general population, there continues to be a need to ensure the availability of information that informs offenders of the risk of IDU and sexual behaviour on health and how to access services that assist in reducing the risk for contacting or spreading blood-borne viruses. It is beneficial for these sessions to include information on how to access treatment and harm reduction services while incarcerated.

There is indication that information on risky behaviours associated with traumatic brain injury as well as measures to reduce the risk of incurring an initial injury and of consequences of post-injury concussion could be relevant to the offender population. In particular, sessions should identify the role of substance abuse as a risk factor in brain injury, both due to its association with physical injuries and as a result of the direct impact of substance use on the brain. This information may be particularly important for Aboriginal men and women offenders in CSC

where rates of substance abuse are very high.

It is important to provide offenders with information on the prenatal risk to the fetus of substance abuse and poor maternal health care, as well as information on how to access services for substance abusing women who are pregnant.

General wellness sessions highlighting the importance of strategies to improve health through encouraging monitoring of blood pressure and cholesterol, improving nutrition and the frequency of exercise, and reducing or quitting smoking and substance abuse have a role to play in improving the health of any population.

Delivery Setting and Format

All formats described in this review, including self-directed, case management, clinics, peer counselling, and education and awareness sessions reported some level of improvement in health knowledge, more proactive attitudes toward health behaviours, and better compliance with health behaviours themselves. Some are more resource intensive than others. For example, peer-counselling to reduce HIV/AIDS-risk of initial infection and risk of transmission among infected offenders and videos that provide information on health risks and health intervention strategies are cost-effective. The decision as to which format to implement depends on the resources and the circumstances of the institution.

It should be noted that some of the interventions described were not strictly brief awareness and education sessions. More intensive programs that tackle interrelated factors affecting offender health may have more impact than traditional interventions that only targeted knowledge gain (e.g., Mullings, Marquart, Carr, & Hartley, 2005). For example, interventions may need to include information on the role of social determinants factors such as domestic violence, unstable accommodation, low employment and substance abuse on health. Women-centred approaches and pre-release protocols for women offenders would offer an understanding of how these factors uniquely affect women and their children.

There is a consistent recommendation in this literature that information and awareness sessions should bridge the transition from incarceration to release to the community. Evidence also suggests that these interventions are more effective when offered in the community; following this, at least, part of the intervention should be offered in the community soon after release.

Implementation

In order to determine the efficacy of any correctional intervention, clear measurable goals should be defined and methods of recording offenders' participation in the interventions, and progress against these goals, established. For example, if the goal is attitude change and knowledge improvement a pre- and post- intervention questionnaire could tap these outcomes (see, for example, work by Carey & Schroder, 2002, on the development of the brief HIV Knowledge Questionnaire). If the outcome is health compliance behaviour such as rates of update of testing for certain conditions or reduction in substance abuse, then an appropriate record of these behaviours pre- and post- treatment or in comparison to a non-treatment group would be necessary. Consistent with this would be tailoring the materials to produce behaviour change for a specific time period, for instance if the goal is to have offenders comply with healthy behaviours while incarcerated then the health promotion material may be pitched differently than if the goal is to promote long-term health self-management. There are a host of protocols that provide tools to assess the extent to which these interventions meet their goals.

Finally, it is important to define the intended audience and modify material appropriately. Among offenders, many engage in high risk health behaviours. Messages may need to be tailored to subgroups within the offender population who have differing health requirements and may respond to messages specific to their needs and culture: for example, intravenous drug users, problem drinkers, women of child-bearing years, and Aboriginal offenders.

Conclusion

Given the importance of addressing high-risk behaviours in reducing negative health outcomes, and the costs to society of the consequences of chronic disease, IDU and severe alcohol abuse, well-designed evidence-based health awareness interventions constitute a key role in a comprehensive correctional health services menu.

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Appendix A

Table A1

List of Offender Health Promotion Initiatives (From the Academic Literature).

Source	Location	Topic	Delivery Timing	Format/Instruction	Brief Description	Efficacy Study?
Alemagno, Stephens, Stephens, Shaffer-King, & White (2009)	Ohio, U.S.	HIV-risk reduction	Community supervision	▪ Single-session ▪ Self-delivery	Brief negotiation interviewing - a computerized, self-directed intervention combining a short structured interview with a brief counselling session.	✓
Asl et al. (2013)	Karaj, Iran	HIV-risk reduction	Incarcerated - for at least 4 months	▪ Individual and/or group sessions ▪ Delivered by staff/professionals	Triangular clinic - counselling, education, referral services, and methadone maintenance therapy.	✓
Bauserman et al. (2003)	Maryland, U.S.	HIV prevention	Incarcerated - within 6 months of expected release	▪ Individual and/or group sessions ▪ Delivered by health counsellors	Maryland's "Prevention Case Management" intervention - individual-level skills-building intervention combining individual counselling and case management services.	✓
Braithwaite, Stephens, Treadwell, Braithwaite, & Conerly (2005)	Georgia, U.S.	HIV-risk reduction	Incarcerated - within 90 days of release	▪ Group sessions (12) ▪ Delivered by facilitator or peer-educator	Four different interventions: 1) facility-based (videos on health promotion and disease prevention); 2) didactic presentations (health education curriculum focusing on HIV/AIDS and substance abuse); 3) HIV-negative peer-educator; 4) HIV-positive peer-educator.	✓

Source	Location	Topic	Delivery Timing	Format/Instruction	Brief Description	Efficacy Study?
Bryan, Robbins, Ruiz, & O'Neill (2006)	Northeastern U.S.	HIV prevention	Incarcerated	▪ Group sessions (6) ▪ Delivered by HIV educators	"Beyond Fear Program" - weekly group sessions during a 6-week period designed to address knowledge, fears, perceptions, beliefs, and concerns about HIV and to promote the training of inmate HIV/AIDS peer educators.	✓
Curd, Winter, & Connell (2007)	Kentucky, U.S.	Increased wellness	Incarcerated	▪ Various activities (individual and group) ▪ Delivered by nurse educator and peers	"Wellness Works" - a comprehensive wellness intervention in a corrections-based substance abuse program. Modelled after successful work site wellness initiatives.	✓
Curd, Ohlmann, & Bush (2013)	Kentucky, U.S.	Nutrition improvement	Incarcerated	▪ Group sessions (4-5) ▪ Delivered by a nurse educator	Nutrition workshops presented by a nurse educator in a classroom setting.	✓
Fish et al. (2008)	New York, U.S.	Communicable diseases knowledge improvement	Incarcerated - at reception centre	▪ Single-session ▪ Pamphlet and videotape	Peer-led video and comic-book-style pamphlet to promote communicable disease testing among inmates.	✓
Grinstead, Zack, Faigeles, Grossman, & Blea (1999)	California, U.S.	HIV prevention	Incarcerated - within 2 weeks of release	▪ Single-session ▪ Face-to-face ▪ Delivered by peer educators	Pre-release 30 minute intervention session to assess post-release risk to acquire or transmit HIV and to offer a risk reduction plan based on this individualized risk assessment.	✓
Grinstead, Zack, & Faigeles (2001)	California, U.S.	HIV-risk reduction	Incarcerated - within 6 months of release	▪ Group sessions (8) ▪ Delivered by community-service providers	Intervention for HIV-positive inmates. Presentation-style followed by a question and answer period and discussion.	✓

Source	Location	Topic	Delivery Timing	Format/Instruction	Brief Description	Efficacy Study?
Khavjou et al. (2007)	South Dakota, U.S.	Heart disease risk factor reduction	Incarcerated	▪ Individual and/or group sessions ▪ Delivered by staff	"Well-Integrated Screening and Evaluation for Women Across the Nation" (WISEWOMAN) program - standard preventive services (blood pressure, cholesterol, and blood glucose testing), referral services, access to medications, and lifestyle interventions to help women develop a healthier diet, increase physical activity, and quit using tobacco.	✓
Ko et al. (2009)	Taiwan	HIV-risk reduction	Incarcerated	▪ Group, single-session ▪ Delivered by an HIV nurse	One hour lecture describing the transmission, prevention, symptoms, screening, and treatment associated with blood-borne viral infections and injection drug use.	✓
Leukefeld et al. (2012)	Connecticut, Delaware, Kentucky, and Rhode Island, U.S.	HIV prevention	Incarcerated - within 6 weeks of release	▪ Group sessions (5) and an individual session (1)	"Reducing Risky Relationships for HIV" - help women offenders use relationship thinking myths in their decision-making process to cognitively generate alternatives to risky thinking in order to make healthier and safer decisions about risky sex and drug use. Five 90 minute prison-based group sessions and one face-to-face or telephone session after community re-entry.	✓
Lorenzen & Bracy (2011)	Washington, U.S.	Improved pregnancy outcomes and substance abuse treatment	Incarcerated	▪ Involves prenatal care and maternity follow-up ▪ Delivered by case management (nurses, social workers, dieticians)	MOMS Plus - a public health case management program offered to substance abusing pregnant inmates.	✗

Source	Location	Topic	Delivery Timing	Format/Instruction	Brief Description	Efficacy Study?
Martin et al. (2013)	British Columbia, Canada	Nutrition and fitness improvement	Incarcerated	▪ Individual and/or group sessions ▪ Delivered by peers	Six-week prison nutrition and fitness pilot program. For the nutritional component, participants were given the Canada Food Guide and a personalized food chart that enabled them to self-monitor their progress in eating behavior for 6 weeks. An educational nutrition presentation was offered to all inmates every Saturday morning during the 6-week pilot program. For the fitness component, a gym facility orientation was conducted and participants were offered the option of exercising in a group circuit classes or of developing an individual exercise plan.	✓
Minc, Butler, & Gahan (2007)	Sydney, Australia	Blood-borne viruses risk reduction & healthy lifestyles promotion	Incarcerated and community supervision	▪ Weekly radio program ▪ Delivered by peers	"Jailbreak" - a weekly half hour radio program to prisoners and the community. Peer-led health promotion messages as well as a diverse range of opinion, music and poetry from people caught up in the criminal justice system. The delivery of engaging, relevant and clear health messages in relation to HIV, hepatitis and sexual health occurs primarily in the form of personal stories, vignettes and quiz questions.	×

Source	Location	Topic	Delivery Timing	Format/Instruction	Brief Description	Efficacy Study?
Myers, Zack, Kramer, Gardner, Rucobo, & Costa-Taylor (2005)	California, US	HIV prevention	Incarcerated and community supervision	▪ Case management sessions ▪ Delivered by case managers	Component of Prevention Case Management titled "Get Connected" – a case manager worked with clients before and after their release to deliver a comprehensive client-centered needs assessment, individualized care and treatment planning, facilitated referrals to community resources, liaison work with parole agents, and HIV-risk reduction education and counseling.	✓
Ross, Harzke, Scott, McCann, & Kelley (2006)	Texas, U.S.	HIV prevention	Incarcerated	▪ Ongoing sessions ▪ Delivered by peer-educators	"Project Wall Talk" - primary aims of the curriculum are to increase knowledge of HIV/AIDS and to help prisoners identify and implement ways of reducing HIV-risk behaviors. Also includes a range of health information (e.g., hepatitis, staphylococcus infections, other sexually transmitted infections).	✓
Scott, Harzke, Mizwa, Pugh, & Ross (2004)	Texas, U.S.	HIV-risk reduction	Incarcerated	▪ Group sessions (4) ▪ Delivered by peers	"AIDS Talk" - a peer-based, multisite HIV-risk reduction education program.	✓
Sifunda et al. (2008)	South Africa	HIV-risk reduction	Incarcerated - within 6 months of release	▪ Group sessions (12) ▪ Delivered by peer-educators	12 sessions provided during a period of 6 weeks, with each session lasting 1.5 hrs. The curriculum covered: HIV and AIDS, STIs, nutrition and TB prevention and management, alcohol and other drug abuse, sexuality and gangsterism, and manhood and general life skills.	✓

Source	Location	Topic	Delivery Timing	Format/Instruction	Brief Description	Efficacy Study?
Simooya & Sanjobo (2001)	Zambia	HIV-risk reduction	Incarcerated	▪ Individual and group sessions ▪ Delivered by peer-educators	"In But Free" - three main activities: health education and promotion, HIV surveillance and the distribution of shaving appliances.	✓
Skipper, Guy, Parkes, Roderick, & Rosenberg (2003)	United Kingdom	Hepatitis C prevention	Incarcerated	▪ One-on-one counselling ▪ Delivered by a nurse specialist	Prison outreach service for hepatitis C. A nurse specialist-led clinic offering health education on hepatitis C, advice on harm minimisation, and testing.	✓
White et al. (2003)	California, U.S.	Tuberculosis prevention	Incarcerated	▪ Individual sessions ▪ Delivered by community health workers	"Tuberculosis Prevention Project" - educational session and pamphlet.	×
Zack, Smith, Andrews, & May (2013)	Haiti	HIV testing increase	Incarcerated	▪ Group sessions ▪ Delivered by peer-educators	Sessions that consisted of: outreach to recruit participants, a video in Creole that focused on transmission, prevention, and treatment, and an extensive question-and-answer period. The sessions concluded with a message encouraging HIV testing at the upcoming health exams.	✓

Table A2

Offender Health Promotion Initiatives in Other Correctional Jurisdictions.

Correctional Jurisdiction	Description of Health Promotion Initiative(s)	Source
Finland - *Criminal Sanctions Agency*	In helping to prevent infectious diseases, a hygiene pack is given to all prisoners that includes instructions for condom use and the cleaning of injection equipment. The pack contains disinfection equipment, which are also available in the policlinic of the prison.	http://www.rikosseuraamus.fi/en/index/enforcement/basiccare/healthcare/combatinginfectiousdiseases.html
Ireland - *Irish Prison Service*	Prison education services includes courses/programs on healthy living - notably physical education, sports, fitness and recreational activities, health education, diet and nutrition.	http://www.irishprisons.ie/index.php/services-for-prisoners/prison-education-service
New Zealand - *Department of Corrections*	The Ministry of Health and the Department of Corrections aim to support the health of prisoners by providing reliable, relevant and up-to-date information on important health topics. Health promotion pamphlets/posters provide information on such topics as scabies treatment, diabetes prevention, hepatitis B/C, heart health, proper hygiene, and weight management.	https://www.healthed.govt.nz/search?topic[0]=41&type=resource&mode=picture-view
Scotland - *Scottish Prison Service*	"The Health Promoting Prison": A framework for promoting health in the Scottish Prison Service sets out how prisoners will be given the opportunity, while in custody, to engage with services to improve their health and provide them with information to enable them to make reasoned choices on the lifestyles they lead. Includes such topics as healthy eating, active living, and tobacco use.	Scottish Prison Service (2002). *The health promoting prison: A framework for promoting health in the Scottish Prison Service*. Edinburgh: Health Education Board for Scotland. http://www.sps.gov.uk/Publications/Publication88.aspx
	"Keep Well in Prisons" is a government initiative that was extended to prison populations. The program aims to offer screening and prevention services to all prisoners over 35 years of age across Scotland. An evaluation of the program was conducted in 2011. Overall, results showed that prisoners obtained a greater awareness of health issues and had started to make small changes in their lives with regards to fitness and nutrition.	Scottish Centre for Social Research (2011). *Evaluation of Keep Well in Prisons*. Scotland: NHS Health Scotland. http://www.healthscotland.com/documents/5221.aspx
Spain - *Spanish Prison System*	Peer-education programs (using the "Snow Ball" method) aim to reduce blood-borne diseases by educating high-risk groups about health and risk behaviours that are associated with drug use. These peer-based programs teach about hygiene and diet in	Guide of peer health education in prison: Health education, harm reduction and peer support in the

	addition to safer drug use and disease prevention. In addition, health education programs and preventative measures are provided by the healthcare professionals working within the institutions.	prison setting. http://buscador.060.es/search?q=peer+health&entqr=3&output=xml_no_dtd&client=ipe&oe=utf-8&proxystylesheet=ipe&idioma=es&site=IPE&filter=p&getfields=*
United States	For the Federal Bureau of Prisons, "health promotion is emphasized through counselling provided during examinations, education about the effects of medications, infectious disease prevention and education, and chronic care clinics for conditions such as cardiovascular disease, diabetes, and hypertension."	http://www.bop.gov/inmates/custody_and_care/medical_care.jsp
Western Australia - *Department of Corrective Services*	The Department runs a number of education and health programs for offenders including the "HIP HOP" (Health in Prisons, Health Outta Prisons) program which looks at issues that increase the risk of contracting and spreading blood-borne viruses including unprotected sex, unclean tattooing and needle sharing.	http://www.correctiveservices.wa.gov.au/rehabilitation-services/health-care/default.aspx