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SAFETY, RESPECT  
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FOR ALL

LA SÉCURITÉ,  
LA DIGNITÉ  
ET LE RESPECT  
POUR TOUS

**File # 394-2-86**  
**Evaluation Report:**  
**Ontario Region**  
**Oleoresin Capsicum (OC)**  
**Inflammatory Spray**  
**Pilot Project**

Evaluation Branch  
Policy Sector  
May 2010



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## **ACKNOWLEDGEMENTS**

The evaluation team appreciates the assistance of all staff members and management of Fenbrook Institution, Collins Bay Institution, and Kingston Penitentiary in completing the on-line questionnaire that was administered to assess the implementation of the Oleoresin Capsicum Inflammatory Spray Pilot Project in those institutions. The team would also like to thank the Union of Canadian Correctional Officers (UCCO-SACC-CSN) for their collaboration and support, particularly the Ontario Regional President, Jason Godin, for his input during the evaluation process. The role performed by Scott Edwards, Director of Operations, and other regional staff members in coordinating regional weekly reporting of data is much appreciated.

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**CORRECTIONAL SERVICE CANADA'S  
ONTARIO REGION  
OLEORESIN CAPSICUM INFLAMMATORY SPRAY  
PILOT PROJECT**

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## EXECUTIVE SUMMARY

On November 16, 2009, CSC's Ontario Region commenced the Oleoresin Capsicum Inflammatory Spray Project (OC-ISP) pilot in three institutions – Kingston Penitentiary, Collins Bay Institution and Fenbrook Institution. The pilot was intended to examine the effectiveness of OC spray in responding to and resolving security incidents in a timely manner. Given that OC spray was available in strategic command posts in these institutions before the project pilot, the pilot was also intended to examine whether correctional officers wearing the OC spray canister on their duty belts would have an operational impact on population and situation management in the institutions.

In May 2004, the warden of Kent maximum security institution in the Pacific Region issued blanket permission for correctional officers working in the living units of the institution to routinely carry OC spray on their duty belts. This decision was necessitated by an elevated threat risk assessment and actions by offenders that could jeopardize the safety and security of the institution. Once the conditions within the institution had returned to a “normal manageable state”<sup>1</sup>, the warden rescinded the authorization and returned the OC spray to the control posts at the end of the ranges to be obtained when necessary. On July 26, 2004, 16 correctional officers refused to return to the workplace without OC spray on their duty belts, citing unsafe work conditions under Part II, Section 128 of the Canada Labour Code<sup>2</sup>.

An Occupational Health and Safety Officer assessed the condition and rendered a decision that danger did not exist. The correctional officers appealed the decision to the Occupational Health and Safety Tribunal. On March 29, 2010, the Occupational Health and Safety Tribunal of Canada rendered a decision and rescinded the 2004 decision of the Health and Safety Officer and concluded that “from the evidence that the potential hazard could reasonably be expected to cause injury to a correctional officer before the hazard could be corrected and so a danger exists”. The Appeals Officer also concluded that the “danger facing the appellants (correctional officers) does not constitute a normal

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<sup>1</sup> Verville et al vs. CSC, 2010, Decision

<sup>2</sup> *ibid*

condition of employment”<sup>3</sup> and directed CSC to take immediate measures to ensure that the safety and health of the correctional officers on the living units was protected.

On September 2, 2009, six correctional officers at Kingston Penitentiary in the Ontario Region were involved in an incident which resulted in the stabbing of one of the correctional officers.

As a result of these incidents, the request by correctional officers to wear the OC spray canister on their duty belts as a personal protective tool became a high interest to the Union of Canadian Correctional Officers (UCCO).

The evaluation of OC-ISP was requested by Ontario Region’s Deputy Commissioner in December 2009 with the objective to assess OC-ISP pilot results and the effectiveness of OC spray in responding to and resolving security incidents in a timely manner, and whether correctional officers wearing the OC spray canister on their duty belts would pose any problem in population and situation management in the institutions. These key evaluation questions were assessed in accordance with the Treasury Board Secretariat’s Evaluation Directive focussing on relevance, performance (effectiveness, efficiency and economy) and implementation. The evaluation report is intended to foster EXCOM discussion on OC-ISP pilot results and the possibility of expanding the project outside the Ontario Region.

The evaluation team used a multi-method approach to answer the evaluation questions. These approaches included quantitative and qualitative data, including an online questionnaire administered at the three pilot sites. Automated data was obtained from CSC’s Corporate Reporting System and Offender Management System. Data/documents on OC spray from other international correctional jurisdictions were reviewed. Three hundred and twenty-three (323) staff members, constituting 31% of possible 1037 staff members responded to the online questionnaire. Thirty-nine percent (n=127) of respondents were from Kingston Penitentiary, 31% (n=101) and 29% (n=95) were from Collins Bay Institution and Fenbrook Institution, respectively. The majority of

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<sup>3</sup> Armstrong et. al v. Correctional Service of Canada, Page 25

respondents (78%; 253/323) were correctional officers. Due to the short timeframe of the project pilot, the evaluation team could not examine the pre-post OC spray impact on offender institutional misconduct; however the evaluation team focused on the effectiveness of OC spray in resolving security incidents.

During the project pilot, OC spray was used 12 times at Kingston Penitentiary and once at Fenbrook Institution to resolve varying degree of security incidents. Although the overall pilot period was short, available data suggested positive outcomes in the areas of perceived staff safety, effectiveness of OC spray in responding to and resolving security incidents quickly, and adherence to procedural/policy guidelines.

## **LIST OF FINDINGS:**

### **RELEVANCE**

***Finding 1: Qualitative responses suggested that the use of OC spray is consistent with CSC's priority of fostering a safe and secure institutional environment in which offenders can participate in their correctional plans.***

***Finding 2: The use of OC spray as one of the situation management tools by CSC is consistent with practices in other international correctional jurisdictions.***

### **PERFORMANCE**

***Finding 3: OC spray was used more frequently at Kingston Penitentiary than the other two pilot sites during the OC-ISP pilot.***

***Finding 4: Available situation management data revealed that OC spray was effectively used by correctional officers during OC-ISP pilot to incapacitate offenders and assisted correctional officers to respond to and resolve security incidents in a timely manner.***

***Finding 5: Depending on the location of a security incident within the institution, correctional managers estimated that the time required to retrieve OC spray from the command post ranged from ten seconds to two minutes.***

***Finding 6: Respondents reported feeling safer and more secure in the institution during the OC-ISP pilot. This view was common among respondents who identified as correctional officers.***

***Finding 7: According to Human Resources Management data, assault and violent acts by person(s) constitute one of the four highest causes of security-related occupational bodily injuries and stress among correctional officers. Individually issued OC spray***

*canisters could provide personal protection to correctional officers and potentially reduce rates of bodily injuries.*

*Finding 8: Although the majority of respondents, including offenders reported that OC spray acted as a deterrent, respondents had different views on whether OC spray fostered the interaction between correctional officers and offenders.*

## **IMPLEMENTATION**

*Finding 9: The majority of respondents, particularly those who identified as correctional officers reported that the policy framework guiding the OC-ISP pilot was appropriate and understood.*

*Finding 10: Correctional officers reported being adequately trained (i.e. certified) in use of force and OC spray use in accordance with CSC's National Training Standards.*

*Finding 11: The use of the plastic seal in Mark III and IV canister is not unique to CSC; however, correctional officer respondents reported that its frequency of breakage impacts its reliability and the objective for which it is intended.*

## **LIST OF RECOMMENDATIONS**

*Recommendation 1: Given the frequency and effectiveness of OC spray in resolving security incidents very quickly at Kingston Penitentiary during the pilot period, CSC should maintain the issuance of the OC spray canister to individual correctional officers on shift at KP and allow sufficient time for implementation that could assist in determining the potential expansion of OC spray to other appropriate levels of its institutions.*

*Recommendation 2: CSC should enhance its use of force curriculum, where appropriate, to include key information on OC spray's effects on a subject's ability to breath and train correctional officers on the effects of OC spray particularly when used in combination with positional restraint.*

*Recommendation 3: CSC should consider centralizing the procurement of the OC spray canisters in order to avoid duplication in the procurement process and to potentially reduce costs.*



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## LIST OF ACRONYMS

|         |  |
|---------|--|
| CAPRA   | Client, Acquiring and Analysing, Partnership, Response, Assessment |
| CBI     | Collins Bay Institution  |
| CCP     | Central Command Post   |
| CCRA    | Corrections and Conditional Release Act                            |
| CD      | Commissioner's Directive   |
| CSC     | Correctional Service Canada  |
| CS      | O-rthochlorobenzalmalononitrile gas                                |
| CTP     | Correctional Training Program                                      |
| DI      | Divisional Instruction   |
| ERT     | Emergency Response Team  |
| EXCOM   | Executive Committee  |
| FI      | Fenbrook Institution   |
| KP      | Kingston Penitentiary  |
| OC      | Oleoresin Capsicum   |
| OC-ISPP | Oleoresin Capsicum Inflammatory Spray Pilot Project                |
| OHSTC   | Occupational Health and Safety Tribunal Canada                     |
| OSOR    | Officers' Statement/Observation Report                             |
| PPA     | Personal Portable Alarm  |
| RPP     | Report on Plans and Priorities                                     |
| SMM     | Situation Management Model   |
| SMO     | Security Maintenance Officer                                       |
| UCCO    | Union of Canadian Correctional Officers                            |
| UoF     | Use of Force   |

## INTRODUCTION

### Background

As an agency within the Public Safety portfolio, Correctional Service Canada (CSC) has the mandate to administer court-imposed sentences for adult offenders sentenced to two years or more. CSC is governed by the *Corrections and Conditional Release Act*<sup>4</sup> (CCRA), which requires CSC to provide a reasonable, safe, and secure custody, and an environment which fosters the humane control of inmates, and maintains the safety and security of its employees. According to CSC's 2010-2011 Report on Plans and Priorities (RPP), on an average day during the 2008-2009 fiscal year, CSC was responsible for 13,287 federally incarcerated offenders and 8,726 offenders in the community. CSC employs approximately 17,400 staff members across the country, over 47% of which are women, slightly more than 6% from visible minority groups, approximately 4% persons with disabilities, and 8% Aboriginals. The Correctional Officer group comprises 39% of total staff members, while another 15.7% of CSC's staff members are in the group that includes parole and program officers who work in the institutions and in the community.<sup>5</sup>

CSC has maintained a focus on achieving public safety results for many years through five strategic priorities, one of which is the *safety and security of staff and offenders in our institutions*.<sup>6</sup> The service is responsible for ensuring a safe and secure environment wherein staff members and offenders can interact without fear of assault, bodily harm or other security concerns, while maintaining an environment that fosters effective correctional planning and offender participation in correctional programs. This commitment cannot be achieved without the cooperation of all staff members and offenders.

### CSC Security

The management of the offender population in federal institutions is achieved through the integration of static and dynamic security measures. Static security measures include

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<sup>4</sup> <http://laws.justice.gc.ca/en/C-44.6/index.html>

<sup>5</sup> CSC's 2010-2011 Report on Plans and Priorities (<http://www.tbs-sct.gc.ca/rpp/2009-2010/inst/pen/pen00-eng.asp>)

<sup>6</sup> *ibid*

physical infrastructure and population management tools, such as the barriers, ranges, fences, and restraint equipment. Dynamic security, however, focuses on meaningful interaction between staff members and offenders in order to increase awareness of factors that may compromise the safety of the institution (CSC, 2006a). Staff members are responsible for building a knowledge base of offender activity so they are able to recognize potential security incidents, and prevent, respond and manage them when possible. As such, dynamic security facilitates staff visibility by creating opportunities for maintaining interaction between staff members and offenders.

CSC's management of security incidents is guided by Commissioner's Directive (CD) 567 (CSC, 2009a), with objectives to ensure: (1) the safety of staff members, the public and the offenders while respecting the rule of law; (2) a respectful environment that promotes ongoing dynamic interaction between staff members and offenders; (3) a return of the institution, after an incident, to an environment that encourages inmates to actively participate in programs and is conducive to the implementation of their Correctional Plan; and (4) the importance of effective leadership and learning (training and development), are reflected in security policies and practices.

There is a requirement that situation management and interventions used by staff members to respond to and control a situation be consistent with the Situation Management Model (SMM)<sup>7</sup> – a tool used to assist in determining acceptable response options to be used in managing security situations (see Appendix A for a visual representation of the SMM). Staff members are required to prevent, respond to and resolve situations using the safest and most reasonable intervention appropriate to address offender behaviour. Each situation must be assessed in terms of the CAPRA (Client, Acquiring and Analysing, Partnership, Response, Assessment) problem-solving model. More specifically, an offender's behaviour, situational factors, tactical considerations and the risk relating to the incident are assessed on an ongoing basis, and responses to the situation are reformulated to reflect any significant changes (CSC, 2009a). An appropriate management strategy is then chosen between verbal intervention/conflict resolution/negotiation, the use of restraint equipment, the use of inflammatory

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<sup>7</sup> Commissioner's Directive – 567 Management of Security Incidents



sprays/chemical agents/physical handling, the application of batons/other intermediary weapons, and the use of firearms (CSC. 2009a).

#### *Oleoresin Capsicum Spray (OC Spray)*

Oleoresin Capsicum is a naturally occurring substance derived from the cayenne pepper plant, and is classified as an inflammatory agent (Edwards, Granfield, and Onnen, 1997) which causes the eyes, nose, and throat to immediately become enflamed and swollen upon contact. This effect produces “involuntary eye closure due to dilating capillaries, nasal and sinus drainage, constricted airway, and temporary paralysis of the larynx, causing gagging, coughing, and shortness of breath” (Edwards et al, 1997). The pepper extract causes the appearance of a burn on the skin, as the blood vessels dilate and blood rushes to the upper body.

#### *Use of Chemical Agents and Inflammatory Sprays in CSC*

In the late 1970s and early 1980s, the use of force and firearms in CSC’s institutions was governed by Divisional Instruction (DI) 714 (CSC, 1981a). These policy directives outlined procedural requirements and conditions in which tear gas could be used by correctional staff members. Similarly, in 1987, O-chlorobenzal malononitrile (CS) gas<sup>8</sup> was introduced into the incident management model to address conflict situations. In 2001 the use of OC spray was included in the use of force directive. These policy documents, to varying degrees, outlined acceptable situations, in which these chemical agents could be used, as well as the required decontamination and reporting procedures following their use. In 2002, CD 567-4, *Use of Chemical Agents and Inflammatory Sprays* introduced and required that “chemical agents and inflammatory sprays should be available at designated posts but should not be carried on the person unless it is required by the situation and has been authorized by the institutional head” (CSC, 2002, p. 2). This CD currently guides CSC’s use of chemical agents and inflammatory sprays, outlining operational guidelines, accountability measures, and decontamination procedures.

The use of OC spray within CSC’s institutions varies depending on situational judgment and the institutional threat risk assessment. The issuance of OC spray generally falls

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<sup>8</sup> *o*-Chlorobenzylidene malononitrile (CS) is a chemical agent tearing irritant for outside use (CSC, 2002).

within three operational requirements. First, OC spray is issued for use by the Emergency Response Team (ERT) in the event of a significant institutional emergency/disturbance. The ERT is a team of specially-trained and specially-equipped correctional officers, on *demand* to resolve conflict in a timely manner. Second, OC spray canisters are generally available in a locked Central Command Post (CCP) and are provided to correctional officers should an incident arise that requires the intervention of correctional officers using OC spray. Third, as an intervention strategy used to respond to elevated risk in the institution, correctional officers may be authorised to carry OC spray canisters on their service belts until it is determined that the risk has been mitigated.

## **Context**

### *Kent Institution Incident*

In May 2004, an elevated threat risk assessment at CSC's Kent maximum security institution in British Columbia led to the warden issuing blanket permission for correctional officers working in the living units of the institution to routinely carry OC spray on their duty belts. Once the conditions within the institution had returned to a "normal manageable state"<sup>9</sup>, the warden rescinded this authorization and returned the OC spray to the control posts at the end of the ranges to be obtained when necessary.

As a result of this decision, on July 26, 2004, 16 correctional officers refused to return to the workplace without OC spray on their duty belts, citing unsafe work conditions under Part II, Section 128 of the Canada Labour Code<sup>10</sup>. A Health and Safety Officer investigated and concluded that the "danger" alleged by the correctional officers constituted a normal condition of employment, implying that the danger alleged did not exist under the Code. On August 3, 2004, the 16 correctional officers appealed the decision of the Health and Safety Officer, and on March 29, 2010, the Occupational Health and Safety Tribunal of Canada rendered a decision and rescinded the 2004 decision of the Health and Safety Officer<sup>11</sup>. In his decision, the Appeals Officer concluded, "from the evidence that the potential hazard could reasonably be expected to cause injury to a correctional officer before the hazard could be corrected and so a danger

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<sup>9</sup> Verville et. al. vs. CSC, 2010, Decision

<sup>10</sup> *ibid*

<sup>11</sup> *Armstrong v. Canada (Correctional Service)*, 2010 OHSTC 006

exists”. The Appeals Officer also concluded that the “danger facing the appellants (correctional officers) does not constitute a normal condition of employment” and directed CSC to take immediate measures to ensure that the safety and health of the correctional officers on the living units was protected.

Similar to the factors that precipitated the issuance of OC spray to correctional officers at Kent Institution in 2004, on September 2, 2009, six correctional officers at Kingston Penitentiary in the Ontario Region were involved in an incident which resulted in the stabbing of one of the correctional officers. According to the Officer’s Statement and Observation Report (OSOR), the correctional officer was wearing a service issued stab-proof vest which offered advanced puncture, slash, and stab protection in a unique system of hard and soft elements. A Union of Canadian Correctional Officers (UCCO-SAC CSN) representative noted that staff could see the incident “becoming more risky” and believed that correctional officers could have diffused the incident with fewer injuries had OC spray been immediately available.

Given the current offender population, it is necessary, albeit challenging, to balance offender programming needs with appropriate operational requirements that foster safety and security in CSC institutions. As one of the measures being piloted by CSC to maintain this balance, CSC implemented the OC-ISPP in order to determine the extent to which the issuance of OC spray to correctional officers might impact the resolution of security incidents quickly, thereby ensuring the safety and security of the institution, fostering the principle of dynamic security, and empowering correctional officers to contribute to CSC’s value of safe reintegration of offenders.

## **PROJECT DESCRIPTION**

The Oleoresin Capsicum Inflammatory Spray Project Pilot (OC-ISPP) began on November 16, 2009 at three institutions in the Ontario Region - Kingston Penitentiary, Fenbrook Institution and Collins Bay Institution. Correctional officers who were assigned to specific operational posts, and who had received the national approved Use of Force and OC training and certified, were issued Mark III or IV OC spray canisters for the

duration of their shift. OC canisters were carried in a sealed holster on correctional officers' service belts. Correctional officers were required to complete a Use of Force Report (CSC form #0754) and an Officer's Statement/Observation Report (OSOR) (CSC form #0875) when OC spray was used. In situations during which the seal was accidentally broken or the unit was damaged, the officer involved was only required to complete the OSOR. The OC canisters were strictly controlled through monthly reviews in order to ensure that the seals were not compromised or damaged, and regular audits of the issuance logs were conducted in order to assess compliance with appropriate policy procedures.

When an incident necessitated the discharge of OC spray, staff members were required to adhere to the SMM and use only the appropriate quantity of OC spray to bring the situation to resolution. Following such an intervention, all decontamination and other requirements outlined in CD 567- 4 were to be followed. Officers were also required to submit the discharged canister to the Correctional Manager on duty who was responsible for securing the unit in the evidence locker until the Security Maintenance Officer (SMO) could examine the canister and the quantity of OC spray used in the situation. Each staff member involved in the incident was required to submit an OSOR before leaving the institution.

## **Profile of OC-ISP Pilot Sites**

### *Collins Bay Institution*

Collins Bay Institution is a medium security facility for male offenders located in Kingston, Ontario. The facility opened in 1930 and, at the time of the evaluation, had a population of 420 offenders and approximately 287 funded positions<sup>12</sup>. The institution provides a variety of correctional, social and recreational programs, and vocational training to offenders in order to address their criminogenic needs.

### *Fenbrook Institution*

Fenbrook Institution is a medium security facility for male offenders located in Gravenhurst, Ontario. The facility opened in 1998 and at the time of the evaluation, had a

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<sup>12</sup> The total number of employees does not include those positions that may have been occupied by two or more part time employees. Those employees are counted as a funded position.

population of 437 offenders and approximately 281 funded positions.<sup>13</sup> The institution provides an array of services and programs focused on community standards, allowing inmates serving long sentences to prepare for their release or to transfer to a minimum security institution and eventually return to society.

### Kingston Penitentiary

Kingston Penitentiary is a maximum security facility for male offenders located in Kingston, Ontario. The facility opened in 1835 and at the time of the evaluation, had a population of 359 offenders and approximately 469 funded positions<sup>14</sup>. The institution provides personal development programs and other vocational/technical training to offenders to facilitate the reduction of their security classification. Special attention is given to living skills, substance abuse programs and basic training programs.

## **EVALUATION STRATEGY**

### **Evaluation Objectives**

The evaluation was completed to provide relevant information to support CSC's Executive Committee (EXCOM) discussion regarding the performance of the Ontario Region's OC-ISP pilot. The evaluation addressed key evaluation questions related to the issues of relevance and performance (effectiveness, efficiency and economy), as well as other issues such as the implementation of the pilot project.

#### ***Objective #1: Relevance***

- 1) Is the OC-ISPP consistent with CSC's priority of fostering a safe and secure institution?
- 2) Is the OC-ISPP consistent with international jurisdictional practices?

#### ***Objective #2: Performance***

- 3) Did the issuance of OC spray on correctional officers' service belts serve as an effective tool for quickly responding to and effectively resolving conflict situations?

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<sup>13</sup> ibid

<sup>14</sup> ibid

- 4) Did the OC-ISPP empower correctional officers to facilitate their responsibilities of controlling combative offenders?
- 5) Did the OC-ISPP encourage correctional officers to engage offenders in the context of dynamic security?

***Objective #3: Implementation***

- 6) Was the OC-ISPP implemented in accordance with procedural guidelines and policy directives?
- 7) Were the procedural guidelines and policy directives sufficient to guide the OC-ISPP?

**Evaluation Methodology**

A multi-method approach was used that incorporated both quantitative and qualitative data. This approach included a staff questionnaire, a review of various documents, including CSC and governmental documentation, project data/documentation, and other correctional jurisdictions' use of OC spray, as well as academic literature, and automated data obtained from CSC's Corporate Reporting System, Offender Management System (OMS), and RADAR.

*Staff Questionnaire*

The questionnaire developed for staff members included a combination of open-ended and closed-ended questions. Closed-ended questions were primarily in the form of Likert scales range and dichotomous (yes/no) questions. The questionnaire was administered through CSC's internal website, and all staff members at Kingston Penitentiary, Collins Bay Institution, and Fenbrook Institution were invited, on a voluntary basis, to complete the questionnaire over a three-week period. Once data collection was complete, frequencies and percentages were calculated for all closed-ended questions, and relevant qualitative themes were generated for all open-ended responses.

It should be noted that the questionnaire was designed such that questions were targeted towards respondents' familiarity with the pilot project and responses to questions were role-based. Therefore, not all staff members responded to all questions. For instance, individuals who were not at least "moderately familiar" with the goals and objectives of the OC-ISPP did not complete questions specific to the pilot project, but rather responded



to questions concerning the use of OC more generally. Similarly, questions specific to the pilot project were, predominantly, answered by correctional officers and correctional managers familiar with OC-ISPP. The analysis of responses and the use of these views in the report are identified accordingly throughout the evaluation report.

Three hundred and twenty three (323) of a possible 1037 staff members responded to the online questionnaire, for a response rate of 31%. Thirty-nine percent ( $n=127$ ) of respondents were from Kingston Penitentiary, 31% ( $n=101$ ) were from Collins Bay Institution, and 29% ( $n=95$ ) were from Fenbrook Institution. The majority of respondents (78%; 253/323), identified themselves as correctional officers, and 11% (36/323), in the “other” category which included the following categories such as administration, assessment and intervention, correctional programs, food services and mental health services). Respondents also included correctional managers (4%; 14/323), institutional parole officers (3%; 10/323), senior management (e.g., warden, assistant warden, deputy warden, 2%; 6/323), and medical staff members (1%; 4/323). A strong majority reported that they had been in their current position for longer than six months (91%; 295/323), and 99% (319/323) reported that their position allowed them to have contact with offenders.

#### Offender Interview

All of the twelve offenders on whom OC spray had been used at Kingston Penitentiary during the pilot period and another five offenders (randomly selected) on whom it had not been used were asked to participate in the evaluation interview. Only six of the offenders on whom OC spray had been used agreed and participated in the interview. None of the offenders on whom OC spray had not been used agreed to participate in the interview.

#### Automated Data

Information from CSC’s Corporate Reporting System and RADAR was used to construct an offender profile (e.g., age, sentence length, Schedule 1 offence, serious harm, need/dynamic, risk/static, motivation, reintegration potential, etc.) for each of the three pilot institutions, as well as for regional and national distribution. The number of institutional charges for misconducts at the three pilot sites, as well as at the regional and all institutions across the country was examined.

## **Limitations**

Due to operational requirements, the timing of the pilot did not allow for the analysis of pre-post institutional misconduct data. Nonetheless, there are several factors that impact offender behaviour in a given correctional institution. For that reason, it would have been difficult to attribute solely the use of OC spray as a contributing factor to the reduction or increase in the rate of institutional misconduct at the pilot sites. Given that OC spray was intended to facilitate the quick resolution of conflicts, the evaluation focused on its effectiveness to achieve this objective.

Although CSC has extensive data pertaining to the causes of occupational related bodily injuries, the data to assess the extent of absences due injuries sustained at work could not be analyzed. Available data did not outline how long an officer who had sustained injuries at work was absent prior to return to their primary responsibility. Therefore, it was not possible to calculate the relative cost of officer's work related injuries to the organization.

## KEY FINDINGS

### Evaluation Objective 1: Relevance

|  |
|--|
| <p><b>Evaluation Question:</b> <i>Is the OC-ISP pilot consistent with CSC's priority of fostering a safe and secure institution?</i></p> |
|--|

**Finding 1:** *Qualitative responses suggested that the use of OC spray is consistent with CSC's priority of fostering a safe and secure institutional environment in which offenders can participate in their correctional plans.*

#### Alignment with CSC's Priorities

The CCRA provides the legal framework for Canada's correctional system and is the foundation behind CSC's operations and its obligations. Section 5 of the *Act* outlines the responsibilities of CSC with regard to the care and custody of inmates, the provision of programs that contribute to the rehabilitation and reintegration of offenders, and the preparation of offenders for release. The CCRA also mandates CSC to foster a correctional environment that supports the safety of its staff members. Section 70 CCRA (1992, c. 20, s. 70; 1995, c. 42, s. 17 (F)) states:

*The Service shall take all reasonable steps to ensure that penitentiaries, the penitentiary environment, the living and working conditions of inmates and the working conditions of staff members are safe, healthful and free of practices that undermine a person's sense of personal dignity.*

CSC's commitment to safe working and living conditions for staff and offenders was reflected in the 2010-2011 RPP. This focus is also evident in CSC's strategic priorities. For example, in its 2006-2007 RPP, CSC outlined five strategic priorities to address the needs associated with the changing offender profile within federal correctional institutions (including strengthening management practices), which would in turn contribute to the safety of Canadians. One of these strategic priorities was *safety and security for staff and offenders in our institutions*. Section 2.4 of the report notes: "One of CSC's fundamental responsibilities is to ensure that its institutions are safe for staff and offenders" and that "maintaining a climate of respect in institutions is essential to the safety of staff and offenders". The intended public safety results of this priority included a reduction in violent and disrespectful behaviour exhibited by offenders and a reduction in assaults within institutions, thereby fostering a culture of respect between offenders

and staff members, while ensuring an environment for offenders that is secure and conducive to meeting rehabilitation goals.

To determine whether the OC-ISPP was consistent with CSC's priority of maintaining a safe environment for staff members and offenders, while fostering a culture of respect between offenders and staff members, questionnaire respondents were asked to rate the relevance of OC spray in assisting correctional officers to manage security incidents. Of those respondents who were at least "moderately" familiar with the goals and objectives of OC-ISPP, 99% (242/244) indicated that the pilot responded to an identified need within the institution. Similarly, all respondents (100%; 252/252) who were familiar with OC-ISPP indicated that the pilot was consistent with the priority of CSC to provide a safe and secure institutional environment, and 91% (215/236) reported that they felt safer in the institution as a result of the availability of OC spray as a tool to resolve security incidents very quickly. These responses suggested that the OC-ISPP was consistent with the priority of CSC to foster a safe and secure environment for staff members and offenders.

### **Implications of the Current Federal Offender Population**

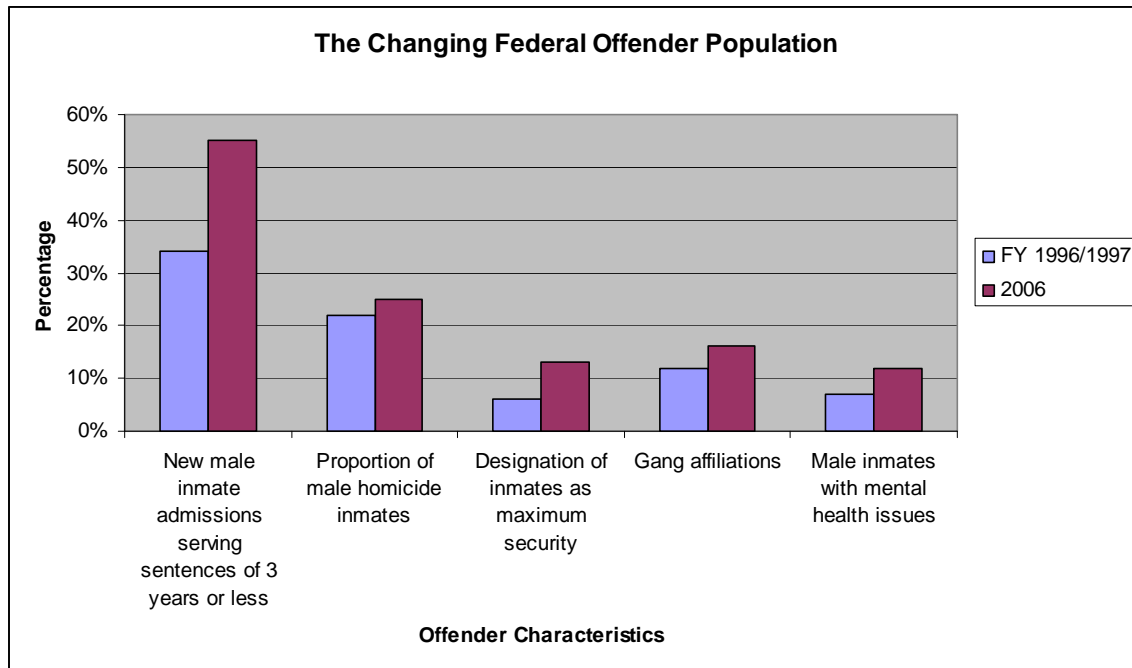
According to Statistics Canada's analysis of crime by offence type from 2002 to 2007, Canada's crime rate has continued to fall steadily since 2002<sup>15</sup> in all categories of offences, and this has resulted in a moderate decline in the federal offender population. However, a CSC research report (2006) revealed that the proportion of male offenders convicted for murder has increased, and almost twice as many offenders have been classified at the maximum security level. The proportion of inmates with mental health issues has also risen, as has the proportion of offenders with gang affiliations. Sentences for new male offenders are shorter than in 1997, with over half serving sentences of three years or less. Finally, the number of inmates with gang affiliations has shown an upward trend since 1997. For example, more than one-sixth of men offenders and one-tenth of women offenders in federal custody have gang affiliations, and this phenomenon has been dramatically increasing since 1997 (12% to 16%, or +33%) for men and 1997 (7% to 13%, or +85%) for women (CSC, 2006b). The research report further outlined several

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<sup>15</sup> Statistics Canada, CANSIM table 252-0013

important changes to the federal offender profile (see Figure 1) that has had consequences for the management of offender population in CSC's institutions.

**Figure 1: Changing Federal Offender Population**



Source: Correctional Service Canada. (2006). *The changing federal offender profile: Profiles and forecasts 2006*. Ottawa, ON: Research Branch, Correctional Service Canada.

Given the changing federal offender population, operational measures are essential to manage and exercise the necessary control in institutions to create and maintain a correctional environment that enhances offenders' levels of motivation to participate in correctional programs and that increases their potential to reintegrate into society as law-abiding citizens.

### **Predictors of Violent Misconduct**

In their retrospective review of 2003 disciplinary records of 24,517 closed-custody<sup>16</sup> inmates in the Florida Department of Corrections, Cunningham and Sorensen (2007) found that age, shorter sentence, prison gang affiliation, prior prison violence and prior prison terms were predictive of violent institutional misconduct. Cunningham and Sorensen's actuarial models constructed from the logistic regression analysis were

<sup>16</sup> "Closed custody" refers to inmates are maintained within an armed perimeter or under direct, armed supervision when outside of a secure perimeter (source: <http://www.dc.state.fl.us/oth/inmates/custody.html>)

modestly successful in predicting institutional misconduct. For instance, analogous to their age, inmates who were less than 21 years of age at the beginning of the observation period were found to be 3.5 times more likely to commit violent infractions than inmates in the 31 to 35 years old reference group. Similarly, 21 to 25 year-olds were 63% more likely to commit violent acts than the reference group, with 26 to 30 year-olds being 25% more likely to commit these acts. The researchers also noted that sentence length had an impact on the likelihood of violent misconduct, as those serving sentences between one and five years being twice as likely to commit violent acts as those serving a sentence of over 20 years.

Cunningham and Sorensen also examined whether conviction for violent offences would predict violent behaviour within the institution. They noted that inmates convicted of violent offences were less likely to commit a violent act in prison; however, those convicted of property offences were more likely to engage in violent behaviour. It was found that prior institutional misconduct was a predictor of future violent acts, as was serving a prior sentence within an institution. Finally, instances of violent acts within the institution were high among those with gang affiliations.

### **OC-ISP Pilot Institutions' Offender Population Profile**

Given the predictors identified by Cunningham and Sorensen, the evaluation team examined the current offender profile within the pilot institutions to determine whether these predictors were relevant to the pilot sites. The evaluation team focussed on offender age, sentence length, risk and need levels, and reintegration potential. CSC offender population data at the time of the evaluation revealed a trend that has been ongoing since 1997. This is evident in the snapshot of the offender profile within the three pilot institutions. For example, offenders with relatively short sentences were prevalent in these institutions. Specifically, Collins Bay Institution had approximately 50% of inmates serving sentences of 2 to 3 years, while Fenbrook Institution and Kingston Penitentiary had 34% and 18% of inmates in this category, respectively. Ontario regional numbers as a whole showed a similar distribution, with 36% of all federal offenders in the Ontario Region serving sentences of 2 to 3 years. Offenders in the 21 to 30 age category comprised 42% of the offender population at Collins Bay Institution, 31% at Fenbrook



Institution, and 37% at Kingston Penitentiary. This was consistent with regional and national figures (see Table 1).

**Table 1: Snapshot of Offender Age and Sentence Length**

|                        | <b>Collins Bay Institution</b> | <b>Fenbrook Institution</b> | <b>Kingston Penitentiary</b> | <b>Ontario Region</b> | <b>National</b> |
|------------------------|--------------------------------|-----------------------------|------------------------------|-----------------------|-----------------|
|                        | <b>n=421</b>                   | <b>n=442</b>                | <b>n=359</b>                 | <b>n=4077</b>         | <b>n=14381</b>  |
| <b>Age</b>             |                                |                             |                              |                       |                 |
| < 20 years             | 9 (2%)                         | 3 (1%)                      | 0 -                          | 52 (1%)               | 325 (2%)        |
| 21-30                  | 178 (42%)                      | 139 (31%)                   | 133 (37%)                    | 1227 (30%)            | 4223 (29%)      |
| 31-40                  | 115 (27%)                      | 126 (29%)                   | 115 (29%)                    | 1044 (26%)            | 3865 (27%)      |
| 41-50                  | 77 (18%)                       | 114 (25%)                   | 76 (26%)                     | 1013 (25%)            | 3482 (24%)      |
| 51-60                  | 32 (7%)                        | 45 (10%)                    | 25 (10%)                     | 481 (12%)             | 1662 (12%)      |
| 61-70                  | 7 (2%)                         | 12 (3%)                     | 10 (2%)                      | 201 (5%)              | 649 (5%)        |
| 71+                    | 3 (1%)                         | 3 (1%)                      | 0 (1%)                       | 59 (1%)               | 175 (1%)        |
| <b>Sentence Length</b> |                                |                             |                              |                       |                 |
| <2 years               | 0 -                            | 0 -                         | 1 (0%)                       | 5 (0%)                | 1 (0%)          |
| 2-3 years              | 212 (50%)                      | 150 (34%)                   | 66 (18%)                     | 5 (36%)               | 21 (40%)        |
| 4-5 years              | 87 (21%)                       | 88 (20%)                    | 55 (15%)                     | 1470 (17%)            | 5759 (17%)      |
| 6-10 years             | 59 (14%)                       | 78 (17%)                    | 51 (14%)                     | 705 (14%)             | 2382 (14%)      |
| 11-25                  | 24 (6%)                        | 15 (3%)                     | 25 (6%)                      | 598 (6%)              | 2069 (6%)       |
| Over 26 years          | 0 -                            | 5 (1%)                      | 4 (1%)                       | 228 (0.5%)            | 823 (1%)        |

Source: RADAR, Extraction Date 2010-03-29

Note: Percentages may not add to 100% due to rounding.

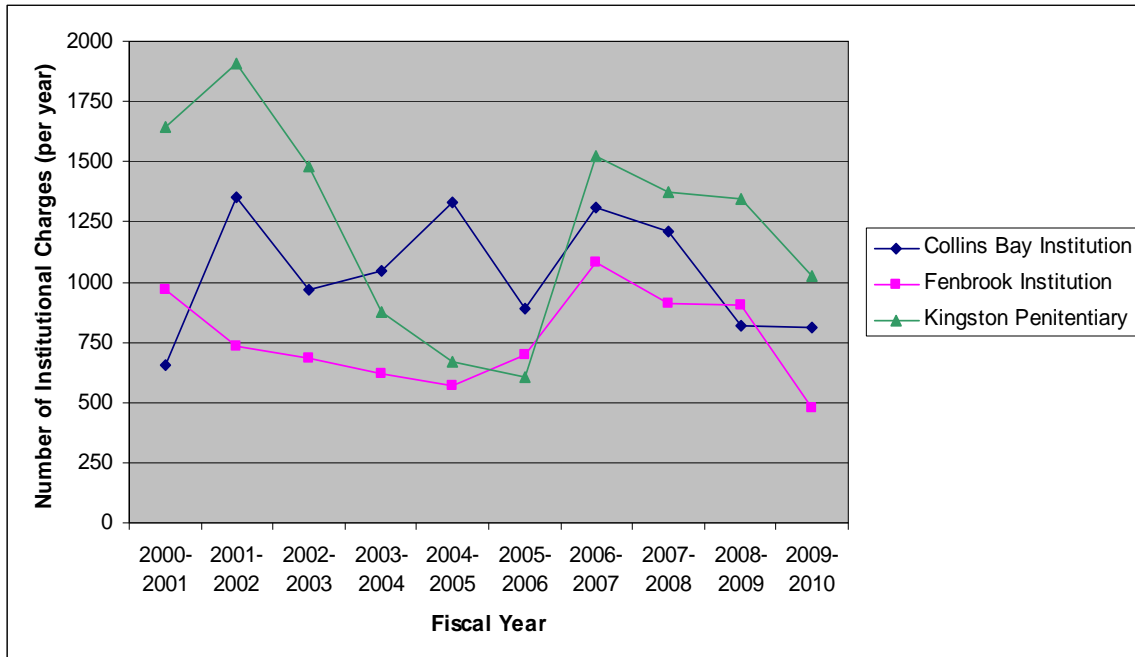
The profile of offenders in the three institutional pilot sites also showed that offenders in the 21 to 30-year-old age group represented the highest proportion of the population in terms of Schedule I<sup>17</sup> offences causing serious harm. These offenders were assessed as high risk and high need during their most recent correctional plan progress review<sup>18</sup>. The occurrence of security incidents, offender institutional misconducts, and violent encounters between correctional officers and offenders are not conducive to effective

<sup>17</sup> Schedule I is comprised of sexual offences and other violent crimes excluding first and second degree murder (see the CCRA).

<sup>18</sup> With the exception of Fenbrook Institution, where the 21-30 age group was third highest in need and risk.

correctional planning and intervention. Figure 2 below indicates the distribution of institutional charges among the three pilot sites. Similar to the national distribution of institutional charges outlined in Appendix B, there was a steady decline in institutional charges in all the three sites since 1999, except in 2006 when there was a sharp increase in the rate of charges for institutional misconducts.

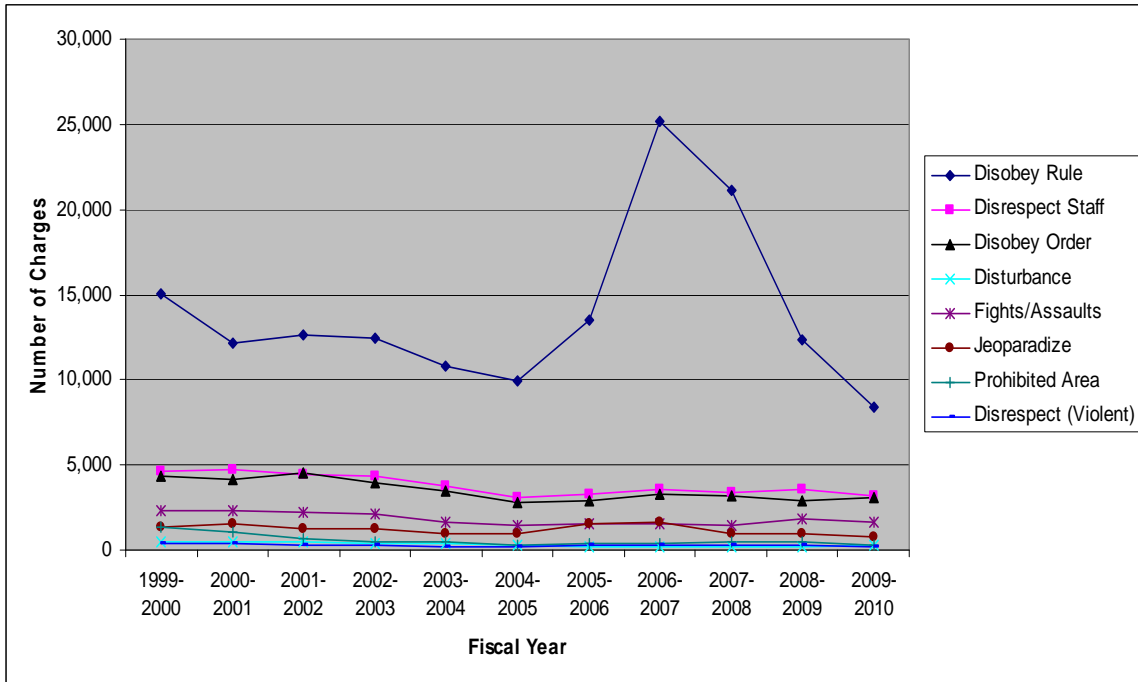
**Figure 2: Institutional Charges – OC-ISPP Sites**



Source: Corporate Reporting System, Extraction Date 2010-03-29

A review of the types of CSC institutional charges for offender misconduct from 1999 to 2010 demonstrated a relatively steady decline since 1999. The institutional charges are broken down by types in Figure 3. This reveals that, in the past 10 years, disobeying institutional rules has consistently accounted for the highest number of infractions, followed by disrespectful behaviour towards staff and disobeys orders. The number of charges for disobeying rules showed a marked increase from 2004-2005 to 2006-2007, and disrespecting staff and disobeying orders followed a similar trend. In response to this trend, CSC highlighted respect for staff members and the order of the institution as an area of focus in its 2006-2007 plans and priorities.

**Figure 3: Institutional Charges by Type – National**



Source: Corporate Reporting System, Extraction Date 2010-03-29

Similarly, when institutional charges at the pilot sites were broken down by age and charge category, the 21 to 30 year old age group was found to be associated with more charges overall than any other age category, as seen in Table 2 below. More specifically, the majority of major institutional charges at Collins Bay Institution, Fenbrook Institution and Kingston Penitentiary (58%, 46%, and 53%, respectively) were associated with offenders in the 21 to 30 year-old age group. This is consistent with the Cunningham and Sorensen finding that offenders in this age group are more likely to demonstrate higher rate of institutional misconduct.

Table 2: Distribution of offender age categories associated with institutional charges from March 29, 2009 to March 29, 2010 by institution and charge category

**Note:** The unit of analysis is an institutional charge, not an offender. An offender who was charged

|                                | <i>Offender Age group</i> |              |              |              |              |              | <i>n</i> |
|--------------------------------|---------------------------|--------------|--------------|--------------|--------------|--------------|----------|
|                                | <b>&lt;=20</b>            | <b>21-30</b> | <b>31-40</b> | <b>41-50</b> | <b>51-60</b> | <b>61-70</b> |          |
| <b>Collins Bay Institution</b> |                           |              |              |              |              |              |          |
| Minor                          | 36 (7%)                   | 293 (58%)    | 118 (23%)    | 53 (10%)     | 9 (2%)       | 0 (0%)       | 509      |
| Major                          | 10 (3%)                   | 192 (58%)    | 80 (24%)     | 40 (12%)     | 11 (3%)      | 0 (0%)       | 333      |
| Overall                        | 46 (5%)                   | 485 (58%)    | 198 (24%)    | 93 (11%)     | 20 (2%)      | 0 (0%)       | 842      |
| <b>Fenbrook Institution</b>    |                           |              |              |              |              |              |          |
| Minor                          | 11 (3%)                   | 172 (44%)    | 116 (30%)    | 79 (20%)     | 10 (3%)      | 2 (1%)       | 390      |
| Major                          | 0 (0%)                    | 65 (46%)     | 45 (32%)     | 27 (19%)     | 3 (2%)       | 0 (0%)       | 140      |
| Overall                        | 11 (2%)                   | 237 (45%)    | 161 (30%)    | 106 (20%)    | 13 (2%)      | 2 (0%)       | 530      |
| <b>Kingston Penitentiary</b>   |                           |              |              |              |              |              |          |
| Minor                          | 9 (1%)                    | 326 (45%)    | 308 (42%)    | 76 (10%)     | 7 (1%)       | 2 (0%)       | 728      |
| Major                          | 9 (2%)                    | 212 (53%)    | 138 (34%)    | 40 (10%)     | 4 (1%)       | 0 (0%)       | 403      |
| Overall                        | 18 (2%)                   | 538 (48%)    | 446 (39%)    | 116 (10%)    | 11 (1%)      | 2 (0%)       | 1131     |
| <b>Overall</b>                 |                           |              |              |              |              |              |          |
| Minor                          | 56 (3%)                   | 791 (49%)    | 542 (33%)    | 208 (13%)    | 26 (2%)      | 4 (0%)       | 1627     |
| Major                          | 19 (2%)                   | 469 (54%)    | 263 (30%)    | 107 (12%)    | 18 (2%)      | 0 (0%)       | 876      |
| Overall                        | 75 (3%)                   | 1260 (50%)   | 805 (32%)    | 315 (13%)    | 44 (2%)      | 4 (0%)       | 2503     |

multiple times in the time period would be represented multiple times.

Irregardless of the above findings, with the exception of Kingston Penitentiary, the offenders in the 21 to 30 age category represented the largest proportion of offenders rated as having high or medium reintegration potential. Nearly 33% of offenders at Collins Bay Institution and 24% of those at Fenbrook Institution were assessed as demonstrating a moderate or high potential to reintegrate into society as law abiding citizens. This suggests that, although this group represents a higher propensity for institutional misconduct, CSC has assessed that, given a supportive correctional environment that fosters their program participation, a higher proportion represents a high potential to reintegrate into society. See Appendix B for the population profile figures for the three institution pilot sites. The distribution underscores the relevance of dynamic security as a measure to balance the need for institutional security with corrective/rehabilitative objectives.

***Evaluation Question: Is the OC-ISPP consistent with international jurisdictional practices?***

***Finding 2: The use of OC spray as one of the situation management tools by CSC is consistent with practices in other international correctional jurisdictions.***

The concept of the OC-ISPP is not unique to CSC. In order to assess the operational use of OC spray in other correctional jurisdictions around the world, the evaluation team reviewed the policy directives and operational procedures of several correctional agencies, including: Kentucky Department of Corrections, State of Ohio Department of Rehabilitation and Corrections, Montana State Department of Corrections, Oregon Department of Corrections, Northern Ireland Prison Service (NIPS), New Zealand Department of Corrections and St. Vincent's Health of Australia. Use of force policies are similar across these correctional departments both in the United States and international jurisdictions with regard to providing a safe and secure environment for staff and offenders by using only the force necessary to diffuse a threat or to bring a situation under control. These policies also include the directive that OC spray<sup>19</sup> is to be used as a non-lethal force option in situations in which lesser means of force or other intervention have proven ineffective or inappropriate. For example, the Northern Ireland Prison Service policy states that inflammatory spray is only to be used in a "serious incident", which is defined as "an incident where there is a significant risk of injury, or worse, to staff, prisoners, or others; or an incident that endangers the good order and/or discipline of the establishment or area, and where the situation cannot be dealt with by means other than staff physical intervention" (NIPS, 2007).

All staff members who are issued OC spray in these jurisdictions are required to undergo training and certification in the use of OC spray. In most jurisdictions, correctional officers are also offered the opportunity (and in some areas required) to receive an indirect spray of OC substance to enhance their knowledge of its effects and their ability to defend themselves if exposed to the substance should the situation arise. Staff members are also trained in the medical decontamination procedures following a discharge of the OC spray. In all incidents in which OC spray is used, medical treatment

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<sup>19</sup> The Northern Ireland Prison Service uses pelargonic acid vanillylamide (PAVA) spray, which is a synthetic version of OC spray (NIPS, 2007).

is to be offered as soon as possible. Finally, all uses of OC spray in all jurisdictions are required to be carefully documented through use of force or incident reports that are later submitted to supervisors or facility directors. These reports provide the context in which the spray was used, how the situation was resolved, whether decontamination procedures were followed, and the disposition of the canister.

CSC's policy regarding the use of force (CD 567-1, CSC 2009b), particularly with regard to the use of inflammatory sprays (CD 567-4, CSC, 2002), is consistent with these correctional jurisdictional practices. It provides specific instructions on the training of officers in the use of OC spray, outlines situational factors that necessitate its use and the decontamination and documentation procedures that must be followed after use.

## Evaluation Objective 2: Performance

*Evaluation Question: Did the issuance of OC spray to correctional officers to wear on their service belts serve as an effective tool in responding to and resolving security incidents quickly?*

### Situation Management Model (SMM)

Effective security is a fundamental underpinning of a safe and secure correctional environment. Therefore, there is a need for effective situation management practice in order to respond quickly and to resolve security incidents limiting the risk of injuries to staff members and offenders, and to reduce the likelihood of damage to crown assets. As previously noted, the SMM is an integrated tool which guides the response to, and resolution of, security incidents. The majority (91%; 206/226) of questionnaire respondents (including correctional officers, correctional managers, and institutional management) reported that they have either a “considerable” (50%; 113/226) or “complete” (41%; 93/226) understanding of the SMM.

According to the SMM, inflammatory sprays/chemical agents/physical handling are used in an integrated form to manage situations where an offender is uncooperative and their behaviour is considered threatening. OC spray is used when verbal interventions have proven to be ineffective or were assessed as inappropriate for the situation (CSC, 2009a). Sixty-nine percent of questionnaire respondents ( $n=156$ ) reported that the use of OC spray should be integrated into the SMM “after verbal orders have been given by the attending officer, and before the use of restraint equipment (if necessary)”. In their qualitative responses, some respondents indicated that OC spray could be used to gain control of physically uncooperative inmates ( $n=38$ ) and that it allowed for a lesser degree of force ( $n=39$ ) in controlling unruly offender.

Further qualitative responses indicated that, in the absence of OC spray, the majority of respondents would employ “physical handling” ( $n=160$ ) to deal with a conflict situation. This is significant to note, as having to resort to physical handling increases the risk of injuries to both correctional officers and offenders.

## Use of OC Spray during the Project Pilot

***Finding 3: OC spray was used more frequently at Kingston Penitentiary than the other two pilot sites during the OC-ISP pilot.***

During the OC-ISP pilot, individually issued OC spray canisters were used 13 times and un-holstered (i.e., the seal deliberately broken as a warning that the spray could be used but OC substance was not discharged) 14 times during the pilot period. Furthermore, the seal broke accidentally 233 times over the course of the five months pilot in the three pilot sites. The spray was used to manage security incidents of varying types between staff members and offenders. For instance, at Collins Bay Institution, OC spray was not used to resolve any crisis situation; however, it was un-holstered four times, twice in response to threatening behaviour from offenders, once in response to a Personal Portable Alarm (PPA)<sup>20</sup>, and once while escorting an offender to the segregation unit. The seals of the OC spray canisters were accidentally broken 35 times at Collins Bay Institution during the pilot period.

Conversely, at Fenbrook Institution, OC spray was used once, to stop an altercation between offenders. It was also un-holstered once, while an offender was being escorted to the segregation unit. The seals of the OC spray canisters were accidentally broken 101 times at Fenbrook Institution during the pilot period.

A higher frequency of OC spray usage occurred at Kingston Penitentiary. Correctional officers at Kingston Penitentiary used OC spray 12 times during the pilot period, and un-holstered the canister 9 times to encourage offender to comply with officer's verbal order. The use of OC spray was in response to offenders' physically aggressive behaviour and/or the assault or attempted assault of staff members or other offenders. In one case in particular, OC spray was used to stop an offender from causing bodily harm to himself. The seals of the canisters were accidentally broken 97 times at Kingston Penitentiary during the pilot period. According to correctional officers, the seal of the canister accidentally breaks when the strap on the holster catches the arm of a chair.

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<sup>20</sup> A personal alarm carried by non-security officer to alert and request for correctional officers' intervention in a potential crisis situation.



Seven percent (7%; 14/212) of correctional officers who responded to the questionnaire reported that they had personally used OC spray since the beginning of OC-ISP pilot and 21% (53/252) reported having observed a situation in which OC spray was used to resolve a security incident. Ninety-three percent (93%; 49/53) of the respondents that reported having observed situations where OC spray was used indicated that the use of OC spray was spontaneous, compelling the correctional officer to act very quickly, while 8% (4/53) indicated that it was pre-planned (for example, the use of OC spray during a cell extraction or during an escort to Segregation). In cases where OC spray was used, qualitative responses indicated that OC spray was used when the offender was displaying either aggressive or uncooperative behaviour towards staff members, other inmates or attempting to damage crown assets, during ERT intervention/cell extraction.

#### **Effectiveness of OC Spray during the OC-ISP Pilot**

***Finding 4: Available situation management data revealed that OC spray was effectively used by correctional officers during OC-ISP pilot to incapacitate offenders and assisted correctional officers to respond to and resolve security incidents in a timely manner.***

As previously noted, OC spray is used by law enforcement and correctional agencies worldwide as a less-than-lethal force alternative to help subdue combative and/or uncooperative subjects. Its use has generally been assumed to be safe and effective; however, as with any use of force measure, its outcome can not be predicted with certainty (US Department of Justice, 2003).

Although to a varying degree and depending on the research study, “effectiveness” of OC spray is generally based on the incapacitation effects in subduing subjects and resolving conflict. For instance, in an evaluation of the effectiveness of pepper spray used during police confrontations, the National Institute of Justice (US Department of Justice, 1997) found that OC spray successfully incapacitated humans in 90% of confrontations. Those individuals who were not incapacitated by the use of OC substance were reported as exhibiting behaviour of individuals under the influence of intoxicants or with emotional challenges. Furthermore, in a study of the use of OC spray among police forces in the Netherlands, it was found that 75 % of 150 suspects were largely or completely

incapacitated, and the use of the spray was effective in making arrests easier in 84 percent of cases (Adang & Mensink, 2004). In a similar study, it was found that 62 % of 766 suspects were largely or completely incapacitated, and officers indicated that it made arrests easier 82 percent of the time (Adang, Kaminski, Howell, & Mensink, 2006).

Among those respondents in the present evaluation who reported that they witnessed the use of OC spray during the pilot project, 96% (51/53) indicated that OC spray was somewhat (30%) or considerably (66%) effective in resolving the security incidents/conflict situations quickly. Fifty-eight percent of respondents (145/250) also reported that they observed situations in which the drawing of an OC spray canister compelled the offender to quickly modify their behaviour. More specifically, respondents reported that once the canister was drawn, the offender either complied with verbal command or withdrew from the situation without requiring deployment of the spray. Notwithstanding the effect of OC spray in resolving conflict with a combative offender, it has been observed to not always incapacitate an individual immediately and it may not be effective in all situations.

### **Response Time to a Security Incident**

***Finding 5: Depending on the location of a security incident within the institution, correctional managers estimated that the time required to retrieve OC spray from the command post ranged from ten seconds to two minutes.***

When a security incident occurs within the institution, response time plays a key role as to how the incident is resolved. One purpose of the pilot was to determine whether the presence of the OC spray canister on officers' duty belts impacted the time necessary to resolve a conflict situation in the institution. Since the majority of OC spray deployments occurred at Kingston Penitentiary, further inquiry was directed toward the timing of the incidents that took place at this location during the pilot.

Staff members estimated that the time necessary to retrieve OC spray from the command post ranged from ten seconds to two minutes. The broad time range is a result of differences between the segregation unit and general population ranges. OC spray has been used in the segregation unit prior to the pilot project as part of an "immediate action

plan”. The segregation unit is smaller than the ranges within the general population, which, along with more history and frequency of use, may account for faster response times within this area.

It should also be noted that the response time suggested here may be different depending on the structural design of other facilities. Kingston Penitentiary is unique in its design, as it was designed to maximize accessibility to command posts. As a result, retrieving OC spray from these posts may differ between Kingston Penitentiary and other maximum security institutions.

***Recommendation 1: Given the frequency and effectiveness of OC spray in resolving security incidents very quickly at Kingston Penitentiary during the pilot period, CSC should maintain the issuance of the OC spray canister to individual correctional officers on shift at KP and allow sufficient time for implementation that could assist in determining the potential expansion of OC spray to other appropriate levels of its institutions.***

## **Job Stress and Empowerment**

***Finding 6: Respondents reported feeling safer and more secure in the institution during the OC-ISP pilot. This view was common among respondents who identified as correctional officers.***

As previously noted, the current offender profile indicates a need for responsive intervention strategies within correctional institutions. A younger inmate population with shorter sentences and increased gang affiliation are predictors of potential violent behaviour from offenders. This requires a greater need for CSC to empower correctional officers to protect themselves in the process of fostering CSC’s priorities and assisting in facilitating the rehabilitation of offenders, thereby contributing to the safety of Canadians.

Several recent research studies have explored the causes of job related stress among correctional officers (Dowden & Tellier, 2004; Finn, 1998; Millson, 2002; Schaufeli & Peeters, 2000). One factor, in particular, that has been shown to be a significant predictor of job related stress among correctional officers is perceived dangerousness in relation to

personal safety. For instance, in his research on predictors of work stress among correctional officers, Millson (2002) found that “perceptions of personal security” were the strongest predictor of job stress among correctional officers within each institutional level (i.e., minimum, medium and maximum security). Millson also found “staff empowerment” (e.g., changing things at work sites, ability to accomplish work objectives, etc.) to be a significant predictor of job stress. Similarly, in a meta-analytic review conducted by Dowden and Tellier (2004), it was also concluded that “perception of dangerousness and role difficulties” generated the strongest predictive relationships with job stress among correctional officers. Thus, if correctional officers are able to feel empowered within the institution to the extent that they can engage in positive interactions with inmates, they can foster an environment in which reintegration potential can be realized and violent misconduct can be circumvented (Millson, 2004).

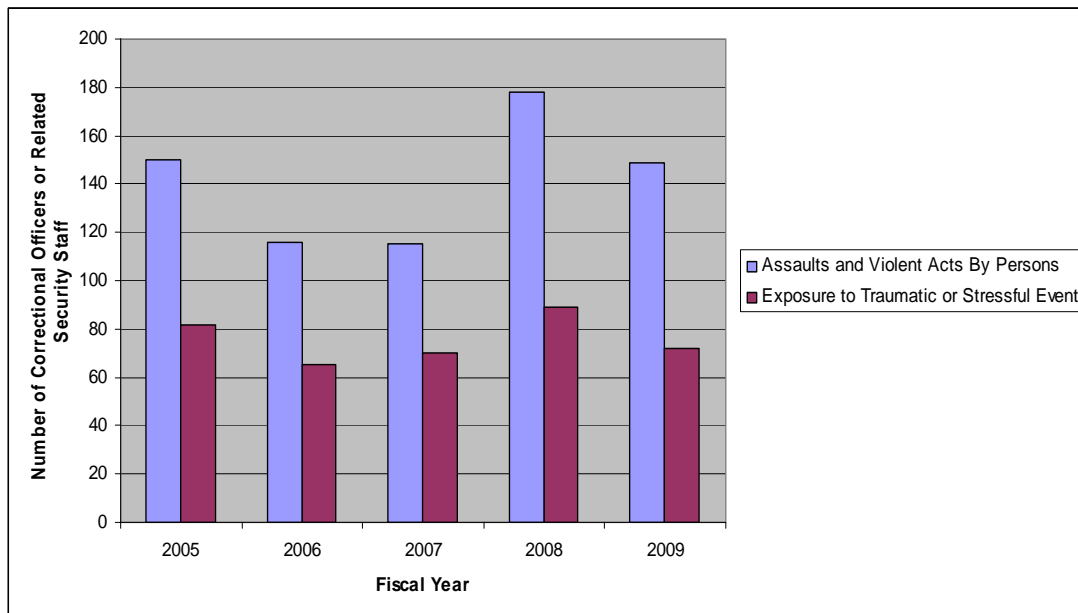
The large majority of questionnaire respondents who were familiar with the OC-ISPP indicated feeling safer or more secure in the institution as a result of the OC-ISPP (91%; 215/236). Sixty-three percent (156/249) of respondents also indicated that the safety and security of the institution would “not at all” be compromised if OC spray canisters were carried by on-duty correctional officers. Furthermore, half of respondents indicated that the safety and security of the institution would “not at all” be compromised if OC spray canisters were available in posts throughout the institution (127/250). Almost all of the respondents indicated that OC spray is necessary within the institution (99%; 66/67), and the large majority indicated feeling safer or more secure in the institution as a result of the presence of OC spray within the institution (94%; 58/62).

### **Risk of Bodily Injury and Stress**

***Finding 7: According to Human Resources Management data, assault and violent acts by person(s) constitute one of the four highest causes of security-related occupational bodily injuries and stress among correctional officers. Individually issued OC spray canisters could provide personal protection to correctional officers and potentially reduce rates of bodily injuries.***

An analysis of occupational security related bodily injuries in CSC submitted to the Workers Compensation Board<sup>21</sup> revealed that bodily injuries caused by assault and violent acts by persons, and exposure to traumatic or stressful events constituted the highest categories of bodily injuries among correctional officers. For example, as outlined in Figure 4 below, the number of bodily injuries sustained by correctional officers for assault and violent acts by person(s)<sup>22</sup> ranged from 115 to 178, with the highest number of cases recorded in 2008. Similarly, the category on exposure to a traumatic or stressful event per year ranged from 65 to 89 injuries with the highest number of cases also reported in 2008 and the lowest in 2006. This rate has remained relatively consistent since 2005, with assault and violent acts by person(s) representing approximately 16% and one of the top four<sup>23</sup> reported causes of bodily injuries of a 5 year (2005-2010) average and exposure to traumatic or stressful event being second at 8.3%.

**Figure 4: Analysis of Occupational Security-Related Injuries**



Source: Accident information (**Human Resource Labour Relations**)

<sup>21</sup> Data provided by Human Resource Management Sector, Labour Relations Branch

<sup>22</sup> The injuries included sprains, strains, tears, bruises, contusions, anxiety, stress, neurotic disorders, nervous systems and sense organs diseases, back pain, hurt back, muscles, tendons, ligaments, joints including bursitis and tendonitis and multiple traumatic injuries and disorders (CSC, Causes of Bodily Injuries) Human Resources Management, 2010.

<sup>23</sup> Four highest not in ascending order include Assaults and violent acts by persons, exposure to traumatic stressful event – NEC, Bodily reaction and Fall on same floor – Human Resources Management data, CSC 2010

Although available data did not outline how long an officer who had sustained injuries at work was absent prior to their return, individually-issued canisters could potentially be an effective personal protective tool for correctional officers, contribute to reducing response times to resolving incidents, and potentially assist in reducing occupational bodily injuries to staff members. Due to the short duration of the pilot, this could not be determined during the evaluation.

***Evaluation Question:*** *Did the OC-ISPP encourage correctional officers to engage offenders in the context of dynamic security?*

### **Dynamic Security**

***Finding 8:*** *Although the majority of respondents, including offenders reported that OC spray acted as a deterrent, respondents had different views on whether OC spray fostered the interaction between correctional officers and offenders.*

Dynamic security is a key method of ensuring safety within CSC institutions. It requires that CSC staff members engage and interact directly with offenders to develop and maintain a knowledge of behaviours or factors that may compromise the safety of staff members, offenders or the institution at large. As part of this process, staff members observe, speak with and interact with offenders in a meaningful way on a daily basis.

Seventy-eight percent (156/199) of respondents reported that OC spray did not have any impact on interactions between correctional officers and offenders during the pilot project, and 20% (40/199) indicated that it promoted their interactions with offenders. Among those who reported that it did not have any impact, it was reported that they had not been involved in its use and therefore could not render a judgement. Conversely, forty-eight percent of respondents (n= 66/137) reported that OC spray is a tool to promote staff visibility in respect to dynamic security, and 45% (57/126) agreed that it would promote interaction between offenders and correctional officers. Of those who indicated that it had a “positive” impact on the ability to engage offenders in meaningful interaction (31%; 66/212), qualitative responses included that: it acts as a deterrent for inmates (n=26); it provides staff members with an available tool to manage inmate conduct and offers staff members a sense of security (n=15); and it promotes inmates choosing alternative means of resolving situations such as verbal communication instead of

physical aggression ( $n=10$ ). With regard to the reactions of offenders to officers carrying OC spray on their person, 91% (181/198) of respondents indicated “neutral” reactions.

Of those questionnaire respondents who were *not* at least “moderately” familiar with OC-ISPP, 58% ( $n=26/45$ ) reported that the use of OC spray had a “positive” or “no” (42%; 19/45) impact on the ability to support and motivate offenders in the context of dynamic security. Qualitative responses included that it serves to deter inmates from engaging in aggressive behaviour ( $n=17$ ) and that it fosters safety within the institution ( $n=6$ ). With regard to the reactions of offenders to officers carrying OC spray on their person, the majority of these respondents described a “neutral” reaction (81%; 42/52).

Offenders perceived that there was little difference in the actions of correctional officers as a result of carrying OC spray. The offenders (6 of a possible 13)<sup>24</sup> interviewed reported that carrying OC spray has not increased correctional officers’ visibility and engagement with offenders. The offenders reported that correctional officers at Kingston Penitentiary are known by offenders to have been active at walking the range and interacting with offenders prior to the OC spray pilot project.

Six of the thirteen offenders on whom OC spray had been used at Kingston Penitentiary during the project pilot supported correctional officers carrying OC spray on their duty belts and the use of OC spray in situations that they perceive to be legitimate. They acknowledge that correctional officers may be outnumbered or confronted by aggressive or threatening offenders and that there are situations where the best option is to use the institutional response teams. In cases such as these, offenders supported the use of OC spray as they believe OC spray is effective at ending and calming these types of situations.<sup>25</sup>

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<sup>24</sup> Seven of the offenders refused to participate in the evaluation interview

<sup>25</sup> The views presented were those of the 6/13 offenders who had been subjected to OC spray due to their negative behaviour or involvement in security incidents during the pilot.

### Evaluation Objective 3: Implementation

*Evaluation Question: Was the OC-ISPP operated in accordance with procedural guidelines and policy directives?*

Given that correctional officers are often in the front-line of security incidents, they are obligated to record and report security incidents in order to assess incident patterns and establish a threat risk assessment and management model. The officer's intervention measures to the security incidents are recorded using a Use of Force Report (CSC form #0754) and an Officer's Statement and Observation Report (CSC form #0875) for their observations and statements. Within the context of the OC-ISPP, the majority of correctional officer questionnaire respondents (72%; 140/195) agreed that the forms required following the use of OC spray are appropriate in describing the reasons for which the spray was used. The majority (79%; 83/105) also agreed that they, personally, had completed all necessary documentation when they have used or witnessed the used of OC spray, and/or when the canister seal was broken. Ninety-nine percent (208/211) agreed to complete all necessary forms when OC spray is used in the future.

Of those questionnaire respondents who indicated having personally used or observed the use of OC spray since the start of OC-ISPP, one-half (50%; 22/44) reported that the incident was videotaped. The majority of respondents (88%; 45/51) indicated that the Use of Force form (CSC 754) was completed following the deployment of OC spray, and 96%; (26/27) reported that a Security Maintenance Officer weighed the canister following its use. The majority (80%; 32/40) also indicated that all the necessary decontamination processes were followed and videotaped when OC spray was used during the pilot. Responses indicate that the OC-ISPP operated in accordance with the procedural guidelines and policy directives outlined at the beginning of the pilot project. The evaluation team verified that in cases where OC spray was used, all the necessary Use of Force and OSOR reports were completed.



***Evaluation Question:*** *Were the procedural guidelines and policy directives sufficient to guide the OC-ISPP?*

## **Procedural Guidelines and Policy Directives**

***Finding 9:*** *The majority of respondents, particularly those who identified as correctional officers reported that the policy framework guiding the OC-ISP pilot was appropriate and understood.*

The recording and reporting of security incidents is important in fostering proper application of policy and, when necessary, the realignment of operational protocol to respond to similar situations in the future. The evaluation team examined whether the available policy directives and operational protocols were sufficient to guide the implementation of the pilot project.

Commissioner's Directive 567 (CSC, 2009a) and its complementary annexes provide a comprehensive guide on the management of conflicts and emergency situations in CSC. The policy document also outlines the responsibilities of every correctional officer in all use of force transactions. Consistent with this, the majority of correctional officers who responded to the questionnaire agreed that the procedural guidelines and directives governing the use of OC spray were readily available (80%; 167/210), and that those policy documents were clear and easy to understand (72%; 151/211). The majority also agreed that they felt comfortable approaching their correctional managers for guidance regarding the pilot project (63%; 132/210) when the need arose.

The majority of correctional officers who responded to the questionnaire also agreed that OC canisters were readily available at the start of their shifts (95%; 201/212), and approximately three-quarters agreed that they were accessible should the need for a replacement arise (74%; 157/212).

## Training and Awareness

***Finding 10: Correctional officers reported being adequately trained (i.e. certified) in use of force and OC spray use in accordance with CSC's National Training Standards.***

Although training serves diverse purposes for different organizations, its main objective is to improve efficiency and performance through the accumulation of skills, competencies and abilities. The responsibilities of correctional officers require the possession of specialized skills and abilities combined with motivation and commitment to ensure the safety and security of those in their care. Almost all correctional officers and correctional managers who responded to the questionnaire (99.6%; 222/223), indicated that they had received training in use of force procedures and that they had been certified or re-certified within the previous 12 months (94%; 207/221). They also agreed that the training was at least “moderately” effective (99.54%; 220/221). Nonetheless, approximately one-half of respondents indicated that some aspects of the training could be improved (49%; 107/220). Qualitative suggestions provided included: offering more hands-on training ( $n=35$ ); increasing the frequency of training ( $n=29$ ); and making the training more in-depth ( $n=14$ ) and practical ( $n=10$ ). Just over half also indicated that OC spray was used on them as a part of their Correctional Training Program (CTP) or other related training (58%; 129/224).

Importantly, all correctional officer respondents indicated that they were trained in the use of OC spray (100%; 210/210), and that this occurred before being issued an OC canister (98%; 204/208). Almost all (96%; 200/210) indicated that they were “completely or considerably able” to effectively use the OC canister following training. Some respondents indicated that the OC spray training could be improved (31%; 64/209) by: providing the option for trainees to be sprayed with OC ( $n=27$ ); offering more opportunity to apply the knowledge through scenario-based situations ( $n=17$ ); and increasing the frequency of the training ( $n=8$ ).

The majority (97%; 313/322) of all questionnaire respondents reported *not* being aware of any situations (in any jurisdiction) in which the use of OC spray resulted in the death of an inmate in a correctional environment. This finding is important if OC-ISPP is to be

implemented as a personal protective tool for correctional officers, as staff members need to be aware of its potential for serious harm including death. It is known that OC spray induces coughing, gagging, and shortness of breath, which some have argued can lead to respiratory compromise, including asphyxiation and death (US Department of Justice, 2001). For instance, a study of in-custody deaths following the use of OC spray concluded that the spray contributed to two deaths in 63 cases, both which involved individuals with asthma (US Department of Justice, 2003).

***Recommendation 2: CSC should enhance its use of force curriculum, where appropriate, to include key information on OC spray's effects on a subject's ability to breath and train correctional officers on the effects of OC spray particularly when used in combination with positional restraint.***

## Cost-Effectiveness

### The Efficiency of the OC Spray Canister Seal

*Finding 11: The use of the plastic seal in Mark III and IV canister is not unique to CSC; however, correctional officer respondents reported that its frequency of breakage impacts its reliability and the objective for which it is intended.*

The use of the sealed holster is not unique to CSC. Breakable safety or anti-tamper seals are used in several jurisdictions to protect the integrity of the OC spray canister. For example, the Northern Ireland Prison Service uses an anti-tamper seal on their inflammatory spray canisters, on which are written the name and number of the receiving officer. These seals are put in place to preserve the integrity of the devices and to ensure that officers are always in the position to account for the history of their devices<sup>26</sup>. Similarly, the State of Oregon Department of Corrections uses a numbered and breakable seal to assure strict identification and accountability<sup>27</sup>.

Accountability is an important objective of the seal, allowing for effective management of the OC spray inventory and ensuring that all interactions involving the un-holstering or use of OC spray are fully controlled and documented. This practice can protect against allegations of misuse, as the presence of the seal indicates that the OC canister did not leave the holster and had not been used, thereby allowing the officers in charge of the canister a level of confidence that the canister they are being issued (or that they are returning at the end of their shift) had not been used or tampered with. The presence of the seal also helps to avoid unnecessary weighing of the canisters, as the seal is a clear indicator that the canister has not been used. Similarly, if the seal breaks accidentally, the act of weighing the canister demonstrates that, although the seal was broken, the OC substance was not discharged. Such protection can provide a necessary safeguard for correctional officers having custody of the canister and fosters inventory control and managerial accountability. As stated earlier in the report, the OC spray canister seal broke accidentally 233 times in the three pilot sites, 35 times at Collins Bay Institution, 101

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<sup>26</sup> Policy and guidance for the operational deployment of PAVA hand-held personal incapacitant spray, (Northern Ireland Police Service, 2007)

<sup>27</sup> OC Spray Projectors – General Population, DOC Policy 40.1.10, (State of Oregon Department of Corrections, 2007)

times at Fenbrook Institution and 97 times at Kingston Penitentiary over the course of the five months pilot in the three pilot sites. According to correctional officers, the seal of the canister accidentally breaks when the strap on the holster catches the arm of a chair. Approximately one-half of correctional officer respondents *disagreed* that the seal on the OC canister was necessary for ensuring user accountability for the canister and its contents (55%; 115/210), while 26% (54/210) agreed, and 20% (41/210) neither agreed nor disagreed.

Similar to the pilot sites, the State of Oregon Department of Corrections<sup>28</sup> reported that they have similar issues with breakage of OC spray canister seals in their facilities and confirmed that correctional officers in their institutions supported its use, given that it ensures accountability and controls the content of each canister.

### **Cost of OC Spray**

The total expenditures for OC-ISPP, as provided by the three pilot sites, were \$1,942.81 at Fenbrook Institution, \$2,819.52 at Kingston Penitentiary, and \$1,356.20 at Collins Bay Institution. This total included the cost of canisters, holsters, and seals<sup>29</sup>. Expenditures totalled \$ 6,118.53, and the average cost for each canister was determined to be \$29.62.

**Table 3: Costs of OC Spray Canisters**

|          | <b>CBI</b> | <b>FMI</b> | <b>KP</b> |
|----------|------------|------------|-----------|
| Canister | \$12.58    | \$17.25    | \$18.56   |
| Seal     | \$1.28     | \$0.89     | \$0.23    |
| Holster  | \$13.56    | \$12.25    | \$12.25   |
| Total    | \$27.42    | \$30.39    | \$31.04   |

Source: Financial data provided by Wardens of the pilot sites

Data suggest that each of the pilot sites was responsible for purchasing their own seals, canisters, and holsters. As shown in Table 3, costs varied among sites, sometimes

<sup>28</sup> Telephone conversation on May 19, 2010 with Lieutenant Gary Russell, Security Coordinator, State of Oregon Department of Corrections

<sup>29</sup> For Kingston Penitentiary, the number also includes the cost of the initial start-up of the pilot, which required an SMO full-time for the weighing, issuing, holster modifications, consultations, storage set-up and other necessities for the pilot project (\$1272).

considerably. The discrepancies between the three institutions in costs for each of these items suggest a need for standardized purchasing procedures across all institutions to ensure consistency in the type of OC spray tools being procured and for potential cost savings for CSC. In addition, the administrative task of developing the procurement requirements and selecting potential vendors likely adds additional costs to the organization that could be reduced.

Notwithstanding the significance of the plastic seal on the Mark III and IV canisters and its use other correctional agencies in the United States, the process of replacing an accidentally broken seal could prove to be operationally intensive and costly to the institution. For example, there were approximately 247 instances where the seal broke accidentally. According to the SMO of the pilot institutions, when a seal is broken, approximately 15 minutes is required to replace it. This equates to a cost of \$8.10 for each seal replacement. Similarly, the SMO spends an average of 60 minutes to verify all the institution's OC seals. This activity equates to a cost of \$32.40 per week for seal verification. These numbers were calculated by dividing the total average salary of a security maintenance officer (\$62,841.50) by the total number of full-time hours worked in a year (1950hrs) which is translated into minutes (117000min). The total cost for the amount of time to replace broken seals was determined to be \$2,000.70 (calculated by multiplying the number of broken seals that occurred throughout the pilot project across the three institutions [247] by \$8.10). The total cost for the amount of time to conduct the weekly seal checks was determined to be \$1,263.60 (calculated by multiplying the number of hours for weekly seal checks throughout the 13 week pilot project across the three institutions [39] by \$32.40). Therefore, the total cost of OC-ISPP, including costs for the tool and amount of time spent, was \$9,382.83.

***Recommendation 3: CSC should consider centralizing the procurement of the OC spray canisters in order to avoid duplication in the procurement process and to potentially reduce costs.***

## **Overall Conclusion**

Although the duration of the pilot was short, available data suggested positive outcomes in the areas of perceived staff safety, effectiveness in quickly responding to conflict situations and adherence to procedural guidelines. However, it is important to recognize that the contribution of the OC-ISPP to the institutional safety and security of the pilot sites was difficult to measure, given the institutional dynamics.

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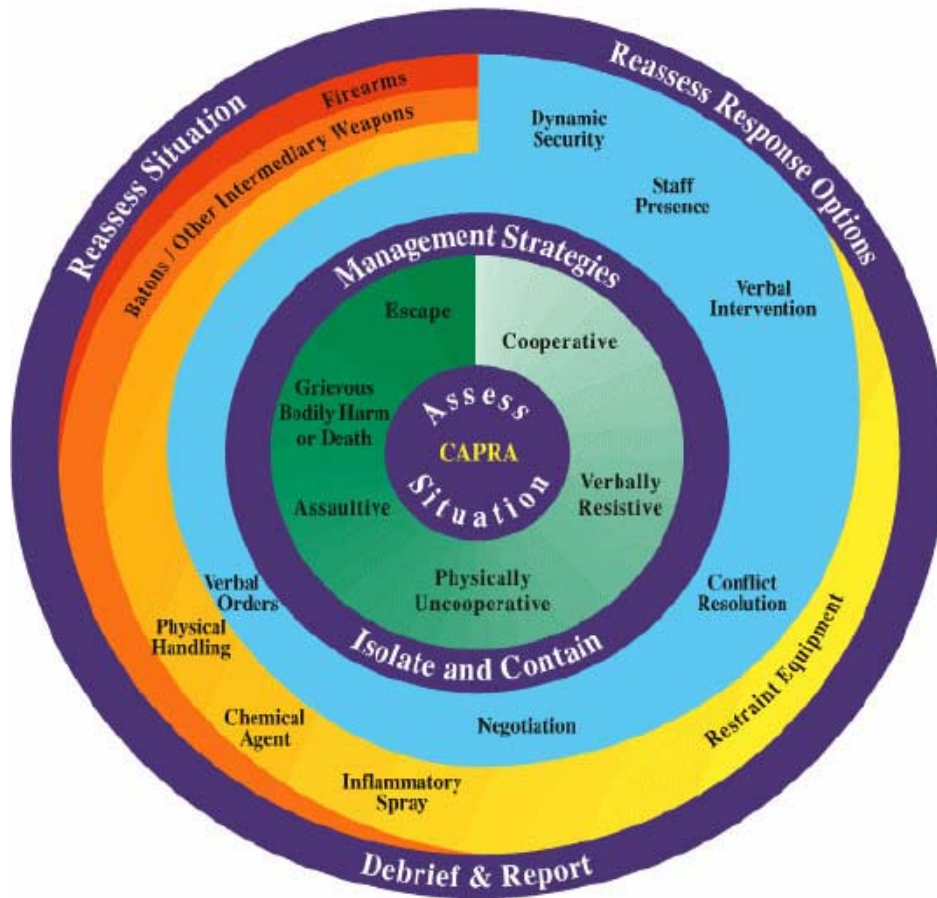
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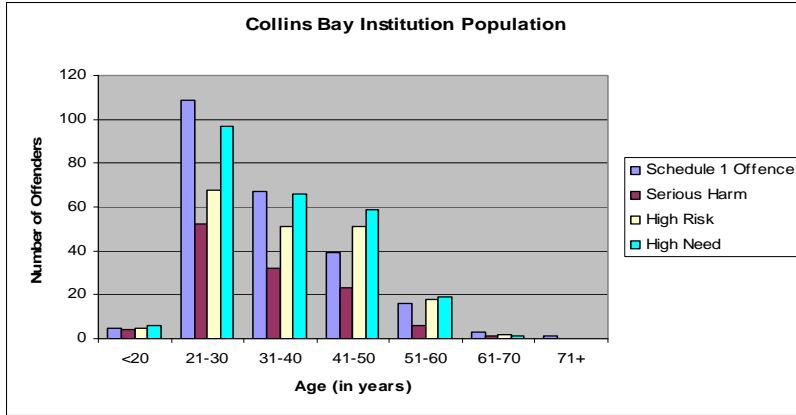
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## Appendix A: Situation Management Model

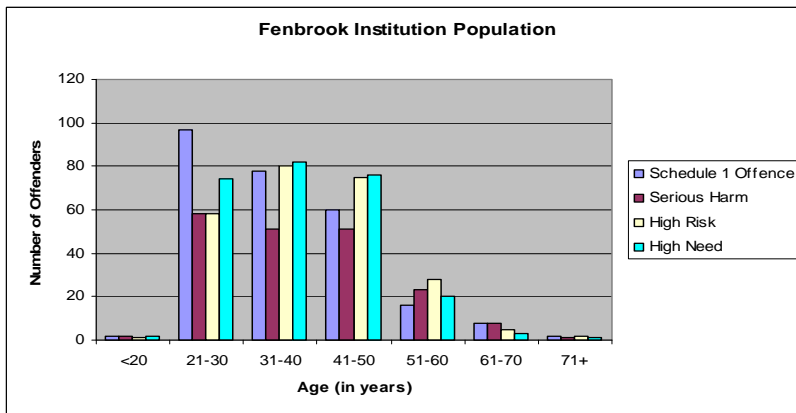


**Appendix B: Population Profile Figures for OC-ISPP Sites**

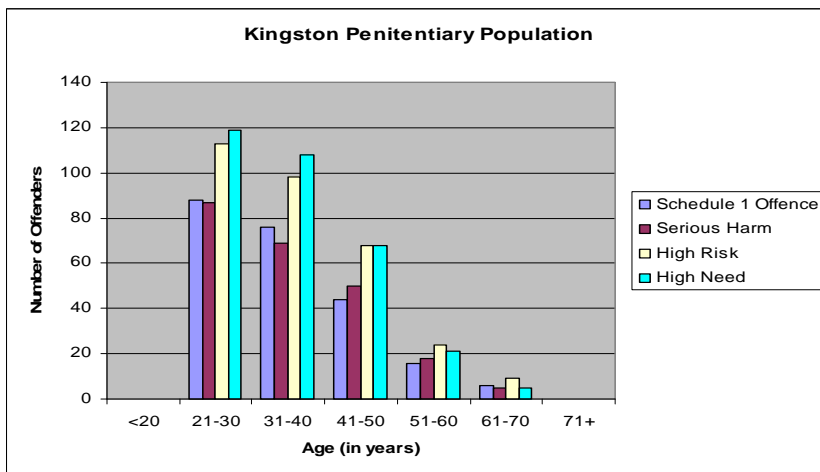
**Schedule I, Serious Harm, Risk and Need**



Source: RADAR, Extraction Date 2010-03-29

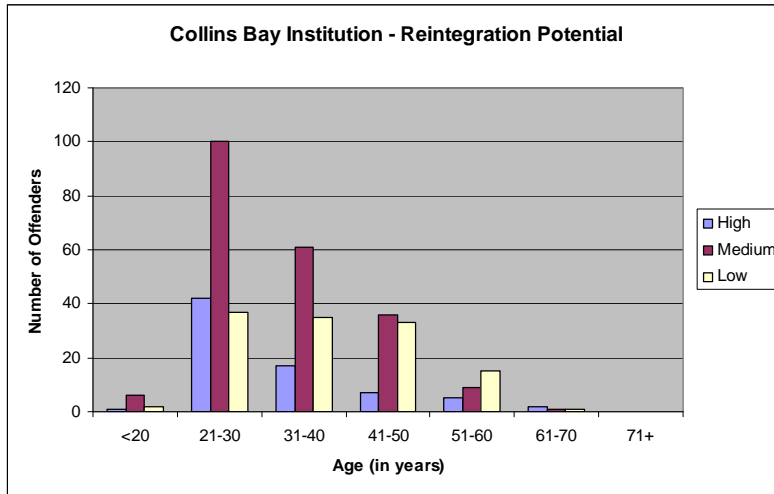


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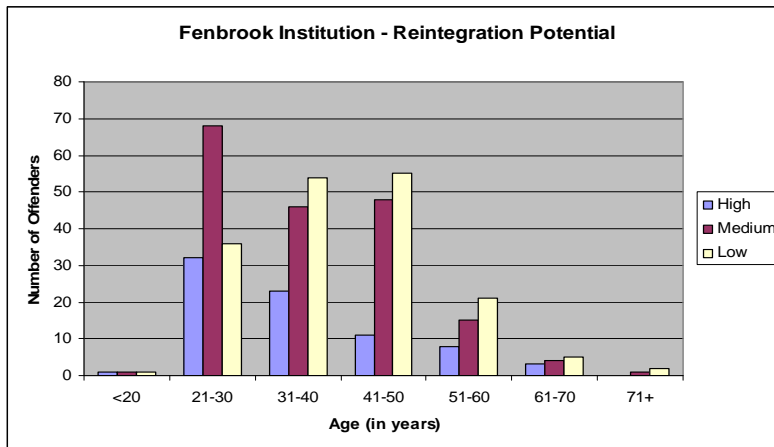


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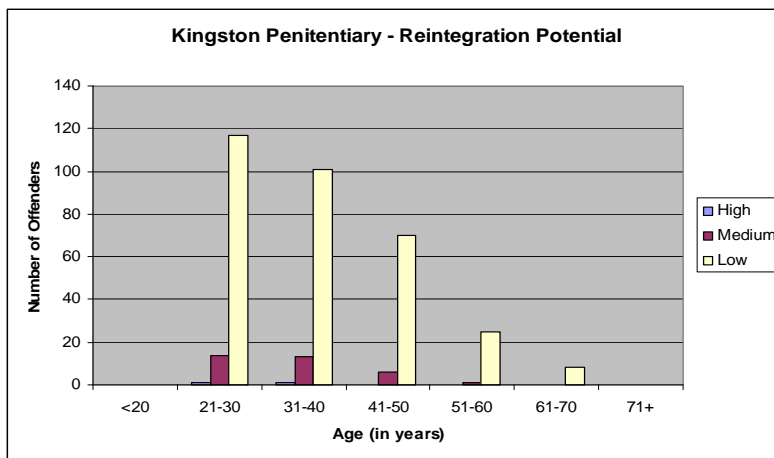
## Reintegration Potential



Source: RADAR, Extraction Date 2010-03-29

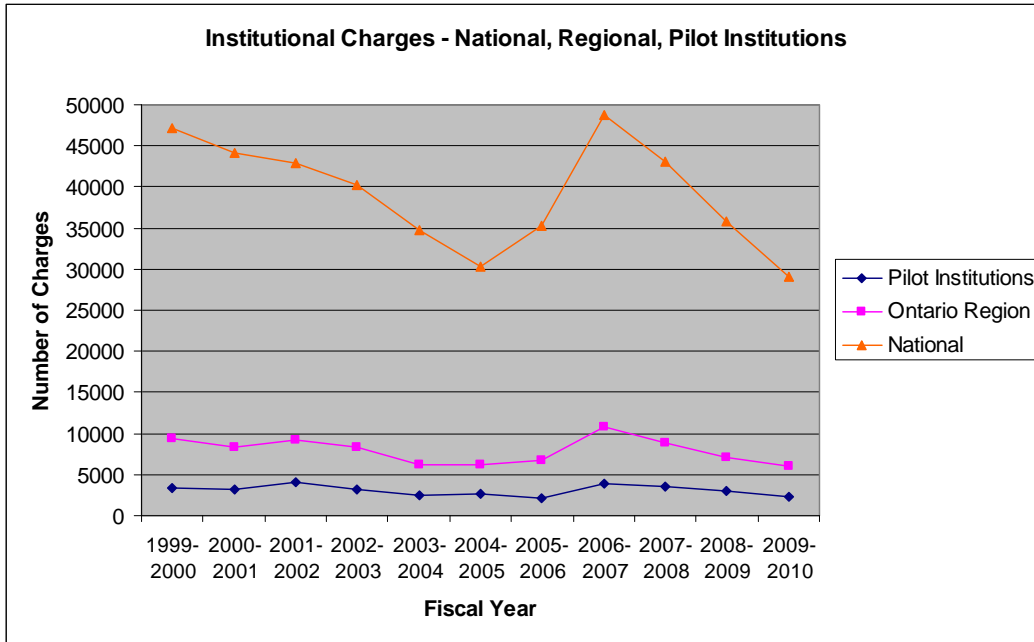


Source: RADAR, Extraction Date 2010-03-29



Source: RADAR, Extraction Date 2010-03-29

**Institutional Charges – National, Regional, and OC-ISPP Sites**



Source: Corporate Reporting System, Extraction Date 2010-03-29 for Regional and Pilot institution figures; 2010-04-13 for National figures