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Understanding Canada's Tri-Service Community

Results of Preliminary Scoping Interviews

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Defence R&D Canada – CSS

Technical Memorandum
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Abstract

A preliminary scoping study was conducted, as part of a larger Tri-Services Architecture Map project, with the objective of facilitating an understanding of Canada's tri-service community, how it interfaces with the broader public safety and security domain, and how research priorities are identified and addressed. Interviews with representatives of seven national-level associations representing Canada's tri-services (police, fire services, paramedics) were conducted and the interview data analyzed. The findings deliver a limited overview of the community and its research needs and challenges, and address the question of how that group currently interfaces with the DRDC CSS program. Furthermore, the results provide a means of scoping the problem space, in terms of helping define what steps and resources may be necessary to generate a model or map of the community.

Résumé

Une étude de délimitation préliminaire a été effectuée dans le cadre du projet de plus grande envergure de plan d'architecture des trois secteurs de services. L'objectif était de faciliter la compréhension de la communauté des premiers intervenants du Canada et de son interaction avec le plus vaste domaine de la sûreté et de la sécurité publique, de même que sa manière d'identifier et de tenir compte des priorités de recherche. Des représentants de sept associations nationales des services de police, d'incendie et d'urgence médicale du Canada ont été interviewés; les données d'entrevues ont été analysées. Les résultats ont donné un aperçu limité de la communauté des premiers intervenants canadiens, des besoins et difficultés en matière de recherche et de la façon dont le groupe interagit actuellement avec le programme de RDDC CSS. En outre, cela a permis de déterminer la portée du problème, aidant à définir les étapes et les ressources pouvant être nécessaires pour créer un modèle ou une carte de la communauté.

Executive summary

Understanding Canada's Tri-Service Community: Results of Preliminary Scoping Interviews

Kate Kaminska; Susan McIntyre; DRDC CSS TM 2012-033; Defence R&D Canada – CSS; December 2012.

Introduction or background: Defence Research and Development Canada (DRDC) Centre for Security Science (CSS) is in the process of implementing the Canadian Safety and Security Program (CSSP) with Canada's tri-services (police, fire services, paramedics) being key stakeholders and clients of the new program. Hence, there is a need to understand that community and its associated research priorities and capability gaps. Scoping interviews were conducted with representatives from the main national-level entities representing the tri-services. The findings deliver a limited overview of the community and its research needs and challenges, and address the question of how the community currently interfaces with the DRDC CSS program.

Results: Qualitative analysis of interview data uncovered six main, interrelated themes:

- **The state of responder research:** The tri-services community views research as an important enabler towards the advancement of their profession, but also unanimously acknowledges that the current state of responder-related research in Canada is lacking and needs improvement. The three services exhibit different levels of maturity as far as advancing research in their respective fields.
- **Relationship between the tri-services:** The tri-services generally work well together; however there is a need for more interaction between the three services to realize commonalities. Personal, trusted relationships play an important role within the community.
- **Jurisdictional issues:** Since tri-services are managed at the municipal and provincial levels, jurisdictional issues arise when dealing with national issues.
- **Relationship with federal safety and security partners:** The relationship between responders and federal government departments is ad-hoc, in that there is no formalized mode of interaction or continuity of contact between the two.
- **Relationship with DRDC CSS:** The programs run through DRDC CSS play an important role in addressing the research needs of first responders and many past projects supported by CSS are cited as best practices by the community. However the views on how past CSS programs were managed are not strictly positive, and as a result there is some trepidation over the new CSSP.
- **Responder representation:** The majority of the interviewees indicated that there is a need for unified national responder representation to provide a common responder platform and a means of “plugging into” the federal government.

Significance: An improved understanding of Canada’s tri-service community and its research priorities can enable more efficient and effective ways for DRDC CSS to connect with that important stakeholder group. This in turn can lead to better informed, relevant and targeted science and technology investments that address capability requirements and gaps.

Future plans: Both the absence of formalized channels of interaction and the importance of trusted, individual relationships suggest that the use of tools and techniques of the field of Social Network Analysis (SNA) could enable a better understanding of the structure of the group as well as provide a means of generating a “map” of the community. It is therefore recommended that, in the next phase of the study, as a SNA study should be undertaken with the aim of producing a model of Canada’s first responder community.

Sommaire

Understanding Canada's Tri-Service Community: Results of Preliminary Scoping Interviews

Kate Kaminska; Susan McIntyre ; DRDC CSS TM 2012-033 ; R & D pour la défense Canada – CSS; décembre 2012.

Introduction ou contexte : Le Centre des sciences pour la sécurité de Recherche et développement pour la défense Canada (RDDC CSS) met actuellement en œuvre le Programme canadien de sûreté et de sécurité (PCSS), en collaboration avec les premiers intervenants (services de police, d'incendie et d'urgence médicale) qui sont principalement concernés par ce nouveau programme. Ainsi, il faut comprendre la communauté et connaître l'écart entre les capacités et les priorités de recherche connexes. Des représentants d'importantes associations nationales des trois secteurs de services du Canada ont été interviewés. Les résultats ont donné un aperçu limité de la communauté des premiers intervenants canadiens, des besoins et difficultés en matière de recherche et de la façon dont le groupe interagit actuellement avec le programme de RDDC CSS.

Résultats : Une analyse qualitative des données d'entrevues a révélé six grands thèmes interalliés :

- **L'état de recherche des intervenants :** La communauté des trois secteurs de services considère la recherche comme un élément important pour l'avancement de leur profession. Elle reconnaît à l'unanimité que la recherche actuelle concernant les intervenants au Canada est insuffisante et doit être améliorée. Le niveau de maturité des trois secteurs de services varie en ce qui concerne le progrès de la recherche dans leur domaine respectif.
- **Relation entre les trois secteurs de services :** Les services de police, d'incendie et d'urgence médicale travaillent bien ensemble, mais ils doivent interagir davantage afin d'atteindre leurs objectifs communs. Les relations individuelles de confiance jouent un rôle important au sein de la communauté.
- **Questions liées aux secteurs de compétence :** Puisque les services de police, d'incendie et d'urgence médicale sont gérés par les gouvernements provinciaux et municipaux, des questions liées aux secteurs de compétence se posent lorsque vient le temps de traiter des enjeux nationaux.
- **Relation avec des partenaires fédéraux des domaines de la sûreté et de la sécurité :** La relation entre les intervenants et le gouvernement fédéral est particulière puisqu'il n'existe aucun mode d'interaction officiel ni contact continu entre les deux.
- **Relation avec RDDC CSS :** Les programmes dirigés par RDDC CSS jouent un rôle important en répondant aux besoins en matière de recherche des premiers intervenants. De nombreux projets antérieurs appuyés par le CSS sont cités à titre de pratiques exemplaires par la communauté. Cependant, l'opinion concernant la gestion d'anciens

programmes du CSS n'est pas que positive et une certaine inquiétude règne à propos du nouveau PCSS.

- **Représentation des premiers intervenants :** Les résultats des entrevues démontrent qu'une représentation nationale unifiée des premiers intervenants est nécessaire pour fournir à ces derniers une plateforme commune et un moyen d'être en contact avec le gouvernement fédéral.

Importance : Une meilleure compréhension de la communauté des premiers intervenants du Canada et de ses priorités de recherche peut offrir à RDDC CSS des moyens plus efficaces de communiquer avec cet important groupe d'intervenants. Cela donnera lieu à des investissements en science et technologie plus informés, pertinents et ciblés pour répondre aux besoins en matière de capacités et combler les écarts.

Perspectives : L'absence de mode d'interaction officiel et l'importance des relations individuelles de confiance indiquent que l'utilisation d'outils et de technique de l'Analyse des réseaux sociaux (ARS) favoriserait la compréhension de la structure du groupe, en plus de permettre la création d'une carte de la communauté. Ainsi, il est recommandé qu'une ARS soit effectuée durant la prochaine étape de l'étude afin d'élaborer un modèle de la communauté des premiers intervenants du Canada.

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1 Introduction

Defence Research and Development Canada – Centre for Security Science (DRDC CSS) is in the process of implementing a new, harmonized Canadian Safety and Security Program (CSSP) which will include the work of the former Canadian Police Research Centre (CPRC), the Public Security Technical Program (PSTP) and the Chemical, Biological, Radiological, Nuclear and Explosives (CBRNE) Research and Technology Initiative (CRTI). The tri-services (police, fire services, paramedics) are major stakeholders and clients of DRDC CSS under CSSP and as such there is a need to thoroughly understand their community, in order to find the most efficient and effective ways of interacting and to enable informed, relevant and targeted future science and technology (S&T) investments that address capability requirements and gaps.

To facilitate the understanding of Canada’s tri-service community, how it interfaces with the broader public safety and security domain, and how priorities are identified and addressed within and across the community, the Tri-Services Architecture Map project¹ was initiated. The aims of the project are two-fold: firstly, to produce a model of how Canada’s first responder community is currently structured; and secondly, if required, to consider potential means for improved connectivity within that domain and with DRDC CSS.

This document reports on the results from the scoping phase of the project, during which interviews were conducted with representatives from the main national-level entities representing the Canadian first responder community. The interviews were conducted between July and October 2012. The initial findings deliver a limited “as-is” overview of the community, and address the immediate question of how first responders currently interface with the DRDC CSS program. Furthermore, the results provide a means of scoping the problem space, in terms of helping define what steps and resources may be necessary to generate a model or map of the community of interest.

¹ CSSP Project 2012-TI-1062

2 Methodology

In the first, scoping phase of the Tri-Services Architecture Map project, two activities were undertaken concurrently:

1. A background literature search from open and publicly available sources; and
2. Interviews with representatives from the main national-level entities representing the Canadian first responder community.

The first activity consisted of a basic internet search as well as a search of the databases of electronic documents available through DRDC library resources, focused on determining the main entities representing Canadian first responders, which would constitute a representative sample population. This activity led to the identification of three national-level chief organizations: the Canadian Association of Chiefs of Police (CACP), Canadian Association of Fire Chiefs (CAFC), and Emergency Medical Services Chiefs of Canada (EMSCC). Following the initial interviews, the list of three entities representing responders at the executive-level was expanded to also include four complementary professional organizations representing operational-level staff: the Canadian Police Association (CPA), the Paramedic Association of Canada (PAC), the Canadian Volunteer Fire Services Association (CVFSA), and the Canadian chapter of the International Association of Fire Fighters (IAFF). Section 2.1 contains brief descriptions of each of the seven entities included in the scoping interviews, and Table 1 provides a summary of the relevant information.

Table 1: Summary of information on Canadian national-level responder organizations

Entity Name	Acronym	Type of Entity	Representation	Engaged in Priority Setting
Canadian Association of Chiefs of Police	CACP	Executive Association	90% coverage countrywide, including all jurisdictional levels from every province and territory	Yes, done through a number of committees
Canadian Association of Fire Chiefs	CAFC	Executive Association ²	Represents provincial, territorial, aboriginal and some volunteer organizations (no data on % representation)	Yes, determined through consensus at an annual conference
EMS Chiefs of Canada	EMSCC	Executive Association	95% of paramedic executives in Canada (mostly large urban centres, not small communities)	Yes, guided by EMSCC White Paper [3]
Canadian Police Association	CPA	Professional Association	95% of all municipal police associations, except in Quebec and not all of RCMP	Yes, primarily through focus groups at annual general meeting

² Membership also includes some professional operational-level staff.

Paramedic Association of Canada	PAC	Professional Association	50%—60% of all professional paramedics across the country, except in Alberta	Yes, in collaboration with EMSCC
Canadian Volunteer Fire Services Association	CVFSA	Volunteer Association	In every province and territory, except Nunavut, First Nations, and unionized firefighters (no data on % representation) ³	No
International Association of Fire Fighters	IAFF	Union	90% of professional firefighters across Canada, except in Quebec, PEI, and rural areas of Canada	No

The second activity consisted of informal, semi-structured interviews with representatives from the CACP, CAFC, EMSCC, as well as CPA, PAC, CVFSA and IAFF. The interviews were conducted by the lead researcher (principal author) and the project manager (co-author). Conducting initial interviews with representatives from the main national organizations constitutes a “top-down approach” to data collection which will provide the necessary context for the project as well as help to guide subsequent data collection phases.

2.1 Background on national responder organizations

2.1.1 Canadian Association of Chiefs of Police

The CACP is a national organization representing police executives in Canada. The membership includes Chiefs and Deputy Chiefs from police services across the country including First Nations policing and Commissioners of the Royal Canadian Mounted Police (RCMP). According to the CACP President, the association has an estimated 90% coverage countrywide, including police services at municipal, regional, provincial and federal levels from every province and territory. The CACP can be described as a political advocacy organization with a mandate dedicated to the support and promotion of efficient law enforcement and to the protection and security of the people of Canada. [1] The work associated with determining priorities for the organization is done through the activities and special projects of a number of committees which produce reports and present findings to board members who in turn advise the government with expert advice.⁴

2.1.2 Canadian Association of Fire Chiefs

The CAFC is a national organization representing firefighters in Canada. The CAFC board of directors has 26 members representing provincial, territorial, aboriginal and volunteer organizations. While, by virtue of the name, the association is aimed at executives and leadership, according to its President it also represents “boots on the ground”. Membership in the CAFC is

³ 80% of all of Canada’s firefighters are volunteers, and they service 90% of the land mass.

⁴ A new initiative aimed at establishing a research agenda for the CACP was underway at time of writing of this report. More details about the initiative are included in Annex A.

voluntary, but experience has shown that stakeholders want to join and participate because their voice is more effective within the CAFC. The latest member addition to the CAFC is the Aboriginal Firefighters of Canada. The CAFC's focus is fire safety across the country, including establishing best practices and standards as well as the advancement of S&T for fire services in Canada. [2] Priorities for the CAFC are determined through consensus at an annual conference where a strategic priority exercise takes place consisting of an environmental scan, discussion on what is working well and what is not, and a final vote on what is in most need of being addressed.

2.1.3 Emergency Medical Services Chiefs of Canada

The EMSCC⁵ is a national organization representing paramedic executives in Canada. According to the association's President, the EMSCC represents 95% of paramedic executives in Canada, including most large urban centres; however some smaller, remote, rural communities and single person services may not be represented. The association works closely with the PAC, its complementary professional association representing the practitioners, and between the EMSCC and the PAC, they have an estimated 60% coverage of the community. The EMSCC's mandate is to provide strategic direction and to guide the EMS practice through evidence at a strategic level. The priority setting process within the EMSCC is guided by two main documents: the EMCSS White Paper and Backgrounder on "The future of EMS in Canada". [3, 4]

2.1.4 Canadian Police Association

The CPA is a professional, national-level organization representing front-line officers, constables, general-duty members and investigators across the country. While the CPA is not a union, its member associations are predominantly unions and as such the CPA deals mostly with union-type business, such as collective agreements and issues related to the labour code. The CPA has 54,000 members and represents 95% of all municipal police associations from Canada's small communities as well as those in large urban centers. The CPA also represents provincial entities such as the Ontario Provincial Police (OPP), railway police and First Nations' police personnel; however it does not represent front-line officers in Quebec and does not represent all of the RCMP. [5] The CPA engages with the government on issues that have national implications for police officers, with priorities determined primarily during annual general and bi-annual meetings, where issues are brought forward through focus groups.

2.1.5 Paramedic Association of Canada

The PAC is a professional organization of paramedicine practitioners. [6] According to the Executive Director of PAC, the association has a 50%—60% representation across the country, with some provincial-level associations, such as Alberta, legislatively prevented from joining a national association. The main role of PAC is advocacy on behalf of the paramedic profession, particularly on issues of self-regulation and defining the profession. Its other important role is to supply a research mandate and strategy for the profession, in collaboration with EMSCC.

⁵ Emergency Medical Services Chiefs of Canada (EMSCC) is currently pursuing a process to legally change the name of the association to the Paramedic Chiefs of Canada (PCC).

2.1.6 Canadian Volunteer Fire Services Association

The CVFSA is national group representing volunteer firefighters in Canada. According to the President of CVFSA, 80% of all of Canada's firefighters are volunteers, and they service 90% of the land mass. While professional firefighters service most of the major urban centres, other areas of the country are serviced by volunteers. The CVFSA has a presence in every province and territory with the exception of Nunavut. It does not represent First Nations volunteer firefighters and many of the unionized volunteer firefighters, as they are generally represented by the unions. The CVSA's mandate deals with strengthening Canadian volunteer fire services through the provision of education and training, administration and organizational standards for volunteer firefighter units. [7] One of the biggest challenges for the CVSA is having a unified voice and priorities across the country, because issues vary drastically based on geographical location.

2.1.7 International Association of Fire Fighters

The IAFF is a union representing full-time professional firefighters in the United States (US) and Canada. According to the Assistant to the General President for Canadian Operations, the Canadian affiliate of the IAFF represents approximately 90% of all professional firefighters across Canada. The IAFF does not have representation Quebec, PEI or in rural areas of Canada, since those areas are serviced mostly by volunteer firefighters. Being a union body, the IAFF focuses mainly on labour relations, health and safety, personal protective equipment and education and training for professional firefighters.

2.2 Interview questions and method

Interviews with the Presidents of the CACP, CAFC, EMSCC, CPA, CVFSA, the Executive Director of PAC, and the Assistant to the General President for Canadian Operations of IAFF were conducted by the lead researcher (principal author) and the Project Manager (co-author). The interviews followed a fairly informal, semi-structured format meaning that while they were guided by a set of questions prepared by the researcher ahead of time, allowance was made for diversions from the script. This enabled the interviewers to tailor the questions to the particular interview subject and situation, and it also offered the flexibility to probe for details on specific issues of interest.

The following is the list of questions that guided the interviews:

1. Can you please describe your organization's mandate, objectives and role?
2. How representative is your organization of the particular tri-service, whether police, fire or EMS, and the first-responder community as a whole? (Query as to what proportion of Canada's tri-service community, the membership base constitutes (for example, size of jurisdiction, geographical distribution, etc.; ask for stats). If you could target additional members, where would they come from?
3. What are some examples of current or ongoing issues or challenges that concern your organization?

4. Given these examples, could you explain how your community and/or organization has determined that they are priorities for study, action, consideration?
5. In the priority setting and planning process within your organization, what is the time horizon that is considered (for example, is it mostly strategic/long-term planning or are mostly operational /short-term needs considered)?
6. What are the challenges you face in your current approach to issues identification, priority setting and planning?
7. What are the challenges you face in getting support or resolution on these issues?
8. What other entities/organizations impact your choices and decisions in this regard? What mechanisms do you currently have to interact with these?
9. What are some of the issues or challenges with which DRDC CSS, as a S&T organization, could assist your community?
10. What has been the relationship between DRDC CSS (or formerly CPRC) and the first-responder community up until this point?
11. What other government, national, or other research funding bodies does the first-responder community interact with?

The above questions were not shared with the interviewees, which enabled conversational, two-way communication. During the interviews the researcher often restated and summarized information to validate the accuracy of noted response. The interviewers took extensive notes during the interviews, which were consolidated and transcribed into electronic format shortly following the interviews. Once all of the interviews were completed, the content of the transcripts was analyzed to determine common themes and relevant issues. The main observations and findings are outlined in the following section.

3 Results: Main themes arising from interviews

The following is a summary of results which were derived from the transcripts through qualitative analysis of interview data obtained by coding transcripts into meaningful categories based on research questions and emerging themes.

3.1 The state of responder research

All of the interviewees acknowledged the importance of S&T research for enabling the advancement of their profession, however as one interviewee noted, each of the tri-services is “moving in the same direction, but at different speeds” in recognizing what S&T research can do for them. For example, as of 2011, paramedics include a research competency as part of their professional accreditation process, which requires practitioners to acquire an understanding of research methodologies and even actively participate in research. It is arguably unsurprising that EMS seem to be ahead of the other two tri-services in terms of initiating and championing research initiatives, because the profession itself is science-based and therefore research is inherently a part of that community’s culture.

All of the interviewees also unanimously acknowledged that the current state of responder-related research in Canada is lacking and needs improvement. Currently, these initiatives are seemingly ad-hoc, in that there does not appear to exist an overarching research framework or strategy for the tri-service community. However, some individual services, such as EMS for example, have taken steps towards defining research directions and priorities specific to their respective communities. [8] In the other services, more work on the research priority setting is needed, with the current processes being more reactive and opinion driven rather than evidence based. Some stakeholders within the first-responder community, namely firefighters, do not seem to have a voice at all in setting S&T research priorities and direction in their field of practice, but rather are left to rely on whatever research is already in existence.

In terms of fulfilling their research needs, the tri-services rely, for the most part, on government and academia. The issues with relying on academic research are that: firstly, it is guided primarily by the interests of the particular researcher and not necessarily the community; and secondly, the research may not be timely with results delivered after they have ceased to have relevance, since it is dependent on the following the academic publishing process which is often lengthy. [9] Relying on government programs such as those administered through DRDC CSS, has proven very valuable to the tri-services, but it is also not without issues, some of which will be outlined in section 3.6 below.

Finally, some members of the tri-service community are actively involved in research themselves, with the CACP for example, being in the process of establishing a research foundation to serve policing research needs. It should be cautioned that while this approach is a positive step towards policing becoming an evidence-based profession, it may also be seen as problematic in not following the “arm’s length” principle. The other issue, with a single entity or association like the CACP dictating research direction, is that it precludes other stakeholders within the police community from having a say in what type of research gets done. The interviews revealed that while police executives tend to push for a focus in more traditional research areas, e.g., crime

statistics, operational staff believe that research on implications of policy decisions and effectiveness of crime prevention could be more important. Annex A contains more information related to the CACP Research Foundation and presents a more in-depth look into research challenges and needs specific to the police community.

While identifying S&T research gaps within the tri-service community is outside the scope of this study, it is nonetheless instructive and relevant to list some of the perceived gaps described by the interviewees:

- Lack of an evidence-based research framework for the tri-services;
- Lack of consensus and process for determining S&T research direction and priorities;
- Lack of operational standards and testing;
- Lack of research on processes and deployment models related to new technology and equipment;
- Limited ability to transition research into operations and to validate research that has been operationalized;
- Lack of mechanism for collecting, storing, analyzing and accessing consistent fire-related statistics from across the country;
- Research not influencing policy, which remains largely reactive rather than evidence based;
- Lack of research on implications of policy decisions on responders and their work (for example, the de-institutionalization of mental health patients in BC, which has caused a huge increased burden on police);
- Lack of existence of measures of performance, success, effectiveness and efficacy;
- Inability to shift from response-mode in the daily operations, towards pro-active prevention, approaches;
- Lack of focus on mental health of responders;
- Interoperability: while there have been great strides towards improving interoperability between the tri-services, a lot of work remains to be done to advance interoperability (even operability) in Canada.

3.2 Relationship between the tri-services

The consensus between all of the interviewees was that stakeholders within the tri-service communities generally work very well together; however at the same it must be recognized that

the three services do very different work and therefore have very different needs. As such, no one individual or existing entity should be presumed to speak for the community as a whole.

Representatives of the chief associations (EMSCC, CACP, CAFC) meet regularly to discuss and align priorities to the extent possible, provide collective response on common issues, and foster interoperability. The meetings and interactions seem to occur primarily at events like the three association's annual conferences, meetings of the Canadian Interoperability Technology Interest Group (CITIG) and other conferences and trade shows. There is consensus within the community that there is a need for more interaction between the three services to realize commonalities. Again, it should be noted that while the three chief organizations work closely together on some common goals, their individual interests vary greatly and, as one interviewee put it, "the chiefs never speak for each other". The other associations also indicated some level of interaction with each other as well as with the chief associations, but on a more sporadic basis, and mostly on common union-type lobbying issues. A good practice example of collaboration between the tri-services, which was cited by multiple interviewees, is the on-going work on the Canadian CBRNE Recommended Equipment List (REL).⁶

While not explicitly stated in the interviews, it can be inferred that many of the processes existing within Canada's first responder community are not necessarily developed through "formal" channels, but rather informal, trusted relationships established through face-to-face interaction at events such as conferences, seem to play an important role in priority setting and decision making.

3.3 Jurisdictional issues

Since tri-services are managed by municipal and provincial authorities, jurisdictional issues arise with representation of first-responders at the national level. All of the chief and professional responder organization representatives noted that, at times, there exists a contentious relationship between their organizations and the provinces. While, the associations take care not to engage in provincial issues and deal strictly with national-level issues, at times the distinction between the two may be unclear. As an example, if an urgent health issue such as the recent drug shortage arises, the paramedics first notify the province since healthcare falls under provincial jurisdiction. However, if there is no timely response from the province, they may also alert federal agencies (such as Health Canada and Public Health Agency of Canada), as they are seen as more likely to take timely and appropriate action. This action may in turn be seen by the provinces as overstepping jurisdictional boundaries. On the other hand, since tri-services fall largely under municipal jurisdictions, they sometimes do not see themselves as having to answer to or be directed by the province.

A general view expressed by many of the interviewees is that national-level representation of first responders is necessary because the provinces are at times ineffective at addressing the needs of the community. Groups such as the Senior Officials Responsible for Emergency Management (SOREM), which is comprised mostly of provincial planning officials, were criticized for not understanding the operational realities of first responders and not engaging with national-level

⁶ CRTI Project 08-105RD

responder organizations. For this reason, the term “emergency management” is being avoided in the tri-service community as it is felt that it implies provincial jurisdiction.

In the context of priority setting, one interviewee noted that often the federal, provincial and municipal priorities and visions do not align. Two other interviewees observed that as an added complication, different provinces have different views on issues, e.g., the use of Conducted Energy Weapons (CEWs), making it challenging to arrive at a national consensus.

3.4 Relationship with federal safety and security partners

The relationship between responders and federal government departments can best be described as ad-hoc, in that there is no formalized mode of interaction or continuity of contact between the two entities. This can be attributed in part to the jurisdictional issues outlined in Section 3.3 above, and in part to a governance issue associated with the lack of existence of a central entity representing all responders, which will be discussed in more detail in Section 3.6.

The Chief associations periodically interact with the highest levels of the federal government, including the Prime Minister’s Office, various Ministers and Members of Parliament, on specific issues such as legislative reform, e.g., consultations on the Omnibus Crime Bill C-10 [10] or the position on the use of CEWs. While such interaction is efficient, it cannot be relied upon as providing a process for addressing all issues relevant to first responders on a continuing basis.

In terms of interacting with other federal safety and security partners, all of the interviewees described having had some interaction with Public Safety (PS) Canada, but that platform was described as at times not being effective. There were a number of reasons given for this, including PS not consulting with the tri-service communities and relying solely on SOREM for advice on responder issues, which results in policies which can be at times deemed not practically implementable by the operational community. Some interviewees suggested that the relationship between the tri-services and PS may be unclear, because there is no clear understanding, on either side, of the “value added” of mutual engagement. Some interviewees suggested that the PS platform could be improved by creating a liaison or advisory position within PS which would provide a link to the community.

Other relationships with federal departments which were mentioned by the interviewees were with Transport Canada, Industry Canada, Health Canada, Public Health Agency of Canada, Department of Justice, the National Research Council and DRDC CSS, which will be specifically discussed in Section 3.5 below. Overall, the consensus among the interviewees was that the relationship with the federal government could be improved and that processes are needed to facilitate the interaction. This will be discussed in more detail in Section 3.6 below.

3.5 Relationship with DRDC CSS

3.5.1 Past relationship under the CPRC, CRTI and PSTP

Most of the interviewees acknowledged that DRDC CSS plays a very important role in servicing the S&T research needs of Canada’s tri-services. The majority the interaction between responders

and CSS seems to have occurred through the former CPRC program and the relationship with that program, and particularly the program's Executive Director, was described as very positive and highly valued within the community. This finding is significant in light of the observation made in section 3.2 that trusted personal relationships seem to play an important role within the tri-service community. Another individual who was praised by the interviewees as "going out of his way to engage the community" is the Director General of DRDC CSS. This kind of effort towards engaging and building relationships plays an important role in raising the profile of DRDC CSS within the responder community. A number of CSS projects, including the 700MHz initiative, CITIG, and REL interoperability projects were described as being very successful and were often cited as best practices by the interviewees.⁷

The view on how DRDC CSS's past programs were managed was however not strictly positive among the interviewees and a number of issues were raised. One observation that was made by a number of interviewees was that role of DRDC CSS is not well understood within the community, and particularly the relationship between the former CPRC program and DRDC CSS. One interviewee pointed out that having the program operated through DRDC, which falls under the Department of National Defence (DND), adds to the confusion, because the name of the department itself suggests that it serves the needs of the military rather than first responders. Two other interviewees initially related having no knowledge of DRDC CSS, however upon further probing, realized that they have actually been involved in initiatives such as the REL.

The impression of some of the interviewees was that under the old DRDC CSS programs, S&T investment funds were not necessarily distributed evenly between the three services, with police getting "the biggest piece of the pie". This raised questions as to how investment priorities were set within the former DRDC CSS programs and the project approval process was described as at times being ambiguous to applicants and not transparent. There was also a perceived unbalance in how funds were allocated among the three programs. Specifically, CPRC funds were described as hard to access in a timely manner and being capped off at a low level (approximately \$100K) compared to CRTI funds which could be obtained seamlessly, quickly and had a very large cap. This led to the responder community questioning their importance as stakeholders of the DRDC CSS programs. Three of the interviewees also suggested that some of the first-responder initiatives, specifically the Capability Based Planning Consolidated Risk Assessment (CBP CRA), may be overfunded at the expense of other potential projects which could have been more beneficial to the community and therefore yielded a higher return on investment. In the opinion of the interviewees, a more efficient and effective allocation of resources could have been achieved had there been more consultation with the responder community.

3.5.2 Going forward under the CSSP

The majority of the interviewees expressed unease and trepidation over the new CSSP structure. This is in part due to, as described in the previous section, the community's strongest relationship being with the CPRC program which is being incorporated into the CSSP. The concern within the tri-service community is that the program re-structuring will result in reduced access to investment funds, which they rely upon often as the sole means for addressing their S&T capability gaps. Insufficient communication on CSSP within the first responder community

⁷ PSTP Project 378-2011-33br00-03, CPRC Project 32BM05, CSSP Projects 2012-CD-1042, -1043, and -1074

exacerbates this issue. From the limited knowledge of the CSSP that the responders do have, they are unsure if they will have “a seat at the table” and therefore whether they will be consulted on how responder-related priorities are determined at DRDC CSS.

Four of the interviewees expressed concern over the governance of CSSP related to tri-services representation. As described in Section 3.2 above, the three services all feel that they need a distinct voice and therefore cannot all be represented by single individual or entity. Similarly, some feel that while the three chief associations will be well represented at the CSSP table, the professional associations will not and as a result, the “boots on the ground” will not have a say in determining priorities.

One interviewee remarked that “there needs to be building of trust” between the tri-service community and DRDC CSS which can be achieved through stakeholders engaging “around the table” and having an on-going dialogue. This relates back to observations made in Section 3.2, on the importance of establishing trusted relationships with the community. This research itself can be given as an example of positive engagement of the community, as many of the interviewees expressed appreciation for being asked to provide their opinion and input to this project.

3.6 Responder representation

Most of the interviewees indicated that there is a need for responder representation at the federal level, which they see as providing a potential solution to many of the problems described in the previous sections. Currently the tri-services interact with each other as well as external partners on a number of different platforms including meetings of association committees, various government departments, conferences and trade shows, but it is not always the same individuals that participate, thus there is no real consensus on issues, or unified platform. This ad-hoc, complex set of interactions constitutes an ineffective and fragmented governance model for the tri-service community. A construct is needed to provide a venue for first responders to interact with each other as well as “plug-into” the federal government, because currently there is no clear venue for this interaction.

Three of the interviewees suggested that a new entity should be established, based on the US model of the Interagency Board (IAB), to provide a single, unified clearinghouse for first responders. The IAB is a US collaborative panel for response practitioners, which provides a structured forum for the exchange of ideas to improve national preparedness and promote interoperability. [11] One of the interviewees suggested that a new “central body” is needed to act specifically as a “bank” of responder-related research information and to set research direction in a strategic way in order to address research gaps, such as those outlined in Section 3.1. Another interviewee remarked that establishing a federal-level responder construct in Canada would be problematic because tri-services are traditionally managed by municipal and provincial governments, and therefore the creation of such an entity would lead to jurisdictional issues, as described in Section 3.3. Yet another one of the interviewees indicated that a national or federal - level body designed to specifically deal with responder-related issues is not needed because there are not enough on-going issues to warrant such a construct.

4 Conclusions and Recommendations

Interviews with representatives of seven national-level associations representing Canada's tri-service community were conducted and the interview data analyzed. The analysis uncovered six main, interrelated themes including: the state of responder S&T research; the relationship between the tri-services; jurisdictional issues; the relationship with federal safety and security partners; the relationship with DRDC CSS; and responder representation in the national research agenda. All six themes relate to the original research questions of trying to gain an understanding of how Canada's tri-service community is structured and how priorities are determined within that community.

The interviews did not provide sufficient data to allow a "mapping" of the community, but rather provided an idea of the scope of the problem and what may be necessary in order to generate such a map. The results indicate that the community is quite complex, as it consists of a great number of entities representing responders at various jurisdictional levels including national, provincial, regional and municipal. From the data collected so far it is not possible to determine which entities play key roles in priority setting and decision making. By virtue of the fact that they represent executive staff, the chief associations play a more strategic role and seem to be able to more readily communicate to federal authorities and funding bodies what they perceive as priorities and gaps. It therefore appears that the chief associations have the greatest influence in determining what issues get addressed, but it is unclear whether the issues they identify as priorities are representative of the priorities of the whole community. Operators should also be included in the process of priority setting as they may have more of an idea of the operational needs and realities of their profession. The extent to which professional associations and other entities representing "boots on the ground" are able to influence the direction of S&T responder-related research cannot be determined from the data collected so far, and it is recommended that further research be undertaken to investigate this.

The interviews revealed that both the dealings between the tri-services and between the responders and federal safety and security partners are somewhat ad-hoc, as formal mechanisms of interaction do not appear to exist, but rather informal, trusted relationships established through face-to-face interaction, seem to play an important role. This ad-hoc, complex set of interactions seems to constitute a somewhat ineffective and fragmented governance model for the community. That is why some within the tri-service community are advocating for a new construct which would provide a mechanism for first responders to interact with each other as well as with their federal partners. Not enough data has been collected as part of this study so far to be able to say one way or the other whether the creation of such a new construct would indeed facilitate more efficient interaction and provide an effective platform for communicating and advocating on issues of importance to first responders.

Both the absence of formalized channels of interaction and the apparent importance of trusted, individual relationships suggest that the use of tools and techniques of the field of Social Network Analysis (SNA) could enable a better understanding of the first responder community in Canada as well as provide a means of generating a "map" of the community. SNA is the study of relationships between people or organizations which makes use of graph theory to determine how groups are structured. By analyzing the structure of interactions, insight can be gained into the roles of individual nodes, representing people or organizations within the network. Some

common outcomes of SNA include uncovering key members of the community, illuminating the effectiveness of information flow, and providing diagnostic assessments of connectivity and decision making. [12] It is therefore recommended that as the next step in the Tri-Services Architecture Map project, a SNA study should be undertaken with the aim of producing a model of how Canada's first responder community is currently structured. SNA could also potentially provide a means for determining how to achieve improved connectivity between Canada's community of first responders and DRDC CSS.

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Annex A Case Study: Understanding the research needs of Canada's police community

In November 2012 the CACP held a two day Summit in Vancouver BC, aimed at helping to establish a research agenda for the CACP Research Foundation to serve the needs of the Canadian police community. While the CACP research foundation has existed in name for a number of years, it has been inactive since its inception and an effort is underway to revive it. DRDC CSS funded a project aimed at supporting the work necessary to establish the research agenda of the Foundation.⁸ The Vancouver Summit was an important step in that process. Detailed findings of that project will be published as a separate contractor's report; however the principal author of this TM attended the Vancouver workshop and noted a number of important observations pertinent to understanding the research needs and challenges of Canada's police community, and particularly how they may relate to the future work of the CSSP.

There were 43 participants that attended the workshop, consisting for the most part of police chiefs from various jurisdictions across the country; however a smaller contingent of representatives from academia and federal safety and security partners was also present. The purpose of the workshop was to validate and expand upon the outputs from a survey-based study that was administered to police chiefs across the country. The study was aimed at eliciting information on their research needs and priorities. The facilitator of the workshop presented an overview of the survey results, many of which corroborated the findings described in Section 3.1 of this report. For example, the survey results revealed that research matters to the law enforcement community, with over 70% of respondents indicating that research is "helpful" or "very helpful" for addressing both strategic and operational issues. Interestingly, 60% of survey participants also specified already having an established research unit in their organization, and 63% indicated that research "often" or "always" influences their decision making. These figures suggest that policing is well on the way towards becoming an evidence based profession. 44% of the responders also indicated relying on federal government funds to conduct research, highlighting the importance of funding mechanisms, such as the one administered through the CSSP for addressing the research needs of this community. [13]

The contractor-led study, also aimed to elicit the main research priorities which are of current importance to police leaders across Canada. Analysis of the results of the survey-based study revealed five main areas where research is perceived to be most needed. These areas included: [13]

- Human Resources;
- Funding and Financing;
- Policing Models;
- Community Engagement; and
- Operations.

⁸ CSSP Project 2012-CD-1095

While it may not be immediately apparent how S&T research relates to these priority areas as characterized by the five broad descriptors above, the discussion at the workshop expanded upon the meaning behind the five categories and made the link more apparent. For example, under the operations category, discussion included the need for information management systems and models and methods for effective crowd control, including the use of new technology. Under the human resources category, discussion included the need for the development of training standards, deployment models and performance metrics. There were numerous other examples of where S&T research could help address the five identified priority areas.

Underlying the discussion at the workshop were a number of cross-cutting themes which spanned across all identified priority areas and also extended beyond the needs and issues of police leaders and the CACP, and into the Canadian policing community as a whole. The most prominent of these themes was related to the economics and sustainability of the policing in today's times of fiscal restraint and shrinking police budgets. The basic message was that the current model of policing in Canada is unsustainable and therefore there is a need for major change. A comment made by one of the workshop participants, which resonated throughout the workshop, was that Canadian policing is on the cusp of a profound change, and indeed the profession is undergoing a "revolution rather than evolution". Furthermore, the discussion made it evident that effective change cannot happen without targeted and applicable research to support it. This situation no doubt represents a major research challenge, but also presents an enormous opportunity for research to be able to inform and guide the future of Canadian policing. Importantly, workshop discussion also suggested that the police leaders, and perhaps by extension the policing community as a whole, recognizes the need and importance of research in enabling the advancement of the profession and they are ready to support it and embrace it. This in turn, represents an opportunity for DRDC CSS to engage and support the community and its leaders in helping to shape the future of the policing profession in Canada.

In order to fundamentally change the way in which police do business the following is a list of some areas that were identified by workshop participants as in need of being addressed through research:

- **Redefining police work:** A comment made by one of the workshop participants was that only 25% of a police officer's time is spent fighting crime and therefore a new definition of police work is needed as well as new metrics to properly reflect the actual job of police (crime statistics alone are not sufficient).
- **Exploring different policing models:** The traditional policing model is no longer sustainable, mainly because of the cost of police salaries, and therefore other policing models need to be explored and assessed, including tiered policing, civilianisation of policing and community oriented policing.
- **Re-examining police training:** Police training budgets are continuously being reduced, while new technology and changing police functions increase the demand for training. Police training models which require every member of the Force to receive uniform training need to be re-examined and new training strategies need to be implemented.
- **Developing metrics to demonstrate "value added":** Increased public scrutiny and demands for accountability necessitate the development of new metrics to measure the

“value added” of policing as well as to enable cost-benefit analysis of policing and community safety.

- **Shifting from response to prevention and mitigation:** While traditional police work focuses on response, recent unfavourable public opinion in response to traditional police tactics demonstrates the need for police to engage in prevention and mitigation instead of focusing solely on response. This involves exploring alternate means of delivering community safety which may extend beyond policing.

List of acronyms

CACP	Canadian Association of Chiefs of Police
CAFC	Canadian Association of Fire Chiefs
CBP CRA	Capability Based Planning Consolidated Risk Assessment
CBRNE	Chemical, Biological, Radiological, Nuclear and Explosives
CEW	Conducted Energy Weapons
CITIG	Canadian Interoperability Technology Interest Group
CPA	Canadian Police Association
CPRC	Canadian Police Research Centre
CRTI	CBRNE Research and Technology Initiative
CSS	Centre for Security Science
CSSP	Canadian Safety and Security Program
CVFSA	Canadian Volunteer Fire Services Association
DND	Department of National Defence
DRDC	Defence Research & Development Canada
EMS	Emergency Medical Services
EMSCC	EMS Chiefs of Canada
IAB	Interagency Board
IAFF	International Association of Fire Fighters
PAC	Paramedic Association of Canada
PCC	Paramedic Chiefs of Canada
PS	Public Safety (Canada)
PSTP	Public Security Technical Program
R&D	Research & Development
REL	Recommended Equipment List
SNA	Social Network Analysis
SOREM	Senior Officials Responsible for Emergency Management
S&T	Science and Technology

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A preliminary scoping study was conducted, as part of a larger Tri-Services Architecture Map project, with the objective of facilitating an understanding of Canada's first responder community, how it interfaces with the broader public safety and security domain, and how research priorities are identified and addressed. Interviews with representatives of seven national-level associations representing Canada's tri-services (police, fire services, paramedics) were conducted and the interview data analyzed. The findings deliver a limited overview of the Canadian first responder community and its research needs and challenges, and address the question of how that group currently interfaces with the DRDC CSS program. Furthermore, the results provide a means of scoping the problem space, in terms of helping define what steps and resources may be necessary to generate a model or map of the community.

Une étude de délimitation préliminaire a été effectuée dans le cadre du projet de plus grande envergure de plan d'architecture des trois secteurs de services. L'objectif était de faciliter la compréhension de la communauté des premiers intervenants du Canada et de son interaction avec le plus vaste domaine de la sûreté et de la sécurité publique, de même que sa manière d'identifier et de tenir compte des priorités de recherche. Des représentants de sept associations nationales des services de police, d'incendie et d'urgence médicale du Canada ont été interviewés; les données d'entrevues ont été analysées. Les résultats ont donné un aperçu limité de la communauté des premiers intervenants canadiens, des besoins et difficultés en matière de recherche et de la façon dont le groupe interagit actuellement avec le programme de RDDC CSS. En outre, cela a permis de déterminer la portée du problème, aidant à définir les étapes et les ressources pouvant être nécessaires pour créer un modèle ou une carte de la communauté.

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tri-services; first responders; fires services; police; emergency medical services