Interim Evaluation Report

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Executive Summary

British Columbia is improving access to health care in rural and remote communities by expanding the role of qualified paramedics. BC Emergency Health Services (BCEHS) leads the Community Paramedicine Initiative and works closely with key implementation partners including BC’s Ministry of Health, regional health authorities, the First Nations Health Authority, the Ambulance Paramedics of BC (CUPE Local 873), and others.

The community paramedicine program in BC has two primary objectives:
1. Contribute to the stabilization of paramedic staffing in rural and remote communities.
2. Bridge health service delivery gaps in communities, identified in collaboration with local primary care teams.

The Program Delivery Goal is to provide care consistent with Quadruple Aim.¹

This interim evaluation report² is focused on formative considerations, but includes some early outcomes. Data were gathered from CPs using two surveys; from patients using a patient reported outcome measure (PROM) and patient profiles; and from the health system using interviews.

As of September 30, 2017, 44 CPs had completed their orientation and are providing services in three health authorities (Northern, Interior and Island). An additional 36 CPs were in the orientation phase. These CPs hold part-time positions (0.53 or 0.67 FTE), and work shifts of 10 hour per day. In addition to seeing patients in their homes, CPs work to integrate into local health care teams and provide health education and promotion at community events. The CPs are supported by unit chiefs, regional training officers (RTOs), primary care teams, hospital and medical staff, and the BCEHS CP management team.

The services CPs provide relate to prevention and care in key areas of health:
- Heart failure (e.g., monitoring blood pressure, pulse, weight);
- Falls (e.g., risk assessment and home safety screening);
- COPD (e.g., oxygen saturation, inhaler medication self-management support);
- Diabetes (e.g., physical assessment, medication self-management; support, vitals and head-to-toe checks) to contribute to stabilization⁴; and
- Health system navigation.

CPs on shift also responded to 40 “911” calls (27 of high acuity), since project roll out.

The data was gathered May 1, 2016 to September 31, 2017, using a multi-methods approach, show that the community paramedicine program is a good news story. The concerns and challenges raised can be readily addressed.

¹ The Quadruple Aim design is intended to contribute to improvements in patient experience and health of populations, as well as costs of care and care provider work life and well-being. The initiative also aligns with, and supports, the Ministry of Health’s strategic directions, including Quadruple Aim. See 2015 Primary and Community Care in BC: A Strategic Policy Framework.
² Catalyst began by first developing the Evaluation Framework that outlines both formative and summative evaluation (2015).
³ CPs that are hired at .67 FTE work two days one week and the next week work three days.
⁴ Services provided depend on referral and patient need.
Summary of Findings by Program Objective & Delivery Goal

Objective #1: Contribute to stabilizing paramedic staffing in rural and remote communities

- The community paramedicine program is attracting and retaining paramedics to work in BC’s rural communities.
- It is positively impacting individual practitioners and providers.
- The program contributes to improved collaboration and integration at the community level.\(^5\)
- CPs are beginning to support system emergency response capacity although results are uneven and emergent.

Objective #2: Bridge health service delivery gaps in communities, identified in collaboration with local primary care teams.

- Community paramedicine is beginning to contribute to bridging delivery gaps identified at the community level.
- The program appears to be contributing to increased local capacity to address identified gaps.

Program Delivery Goal: Quadruple Aim

Readers should understand that these are still early days in CP program development and implementation. At this interim stage we have data for Aims #1 and #4 only. There is some evidence to indicate potential for contribution to #2 and #3 in the future.

1. **Improving patient experiences**: CPs are having some successes, and have potential to continue to improve this.

2. **Improving health of populations**: There is some evidence to indicate early contributions to improving health. The EQ 5D\(^6\) is a patient reported outcome measure (PROM) and intended to provide evidence in the summative report.

3. **Reducing costs**: It is too early to measure a cost impact. BC health system data on emergency department (ED) visits and 911 calls will included in the summative report. Definitions of cost units need to be refined.

4. **Health care provider well-being**: CPs have experienced some positive changes, but also note challenges in this area.

The recommendations below address implementation, evaluation and using knowledge. The full report also includes suggestions for specific actions.

1. Continue to engage key implementers (e.g., CPs, RTOs, and unit chiefs) in evaluative thinking and utilizing evaluation findings to improve practices.

2. Create strategies to enhance survey data quality and collection.

3. Work with unit chiefs and RTOs to resolve concerns identified in the CP Experience Survey and interview data (e.g., need for access to supervision and practice support, complexities around kilo shifts, challenges of part-time employment).

4. Develop a strategy to engage EAC members in understanding and advising on the evaluation, and for mobilizing learning about community paramedicine.

\(^5\) Summative reporting will include data on provincial level impacts.

\(^6\) EQ 5D is a patient outcome measure survey (self-report).
5. Develop approaches to effectively and efficiently communicate findings to non-health system stakeholders (e.g., EAC patient representatives and CP patients). Patient insights will be essential to improving service and capturing the impact on their lives.

6. BCEHS communicated well within BC (i.e., updates, reports, meetings) and could consider sharing the lessons learned with colleagues advancing community paramedicine elsewhere in Canada and globally and using findings to leverage other resources (e.g., Home Health Monitoring).
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Section 1. Introduction

Context

The Community Paramedicine Initiative was launched in April 2015 with nine prototype communities, followed by a provincial rollout that began in late April 2016 with the announcement of the first rural and remote communities that would receive the services of community paramedics, including the prototype communities. By the end of 2018, the program will have recruited more than 80 full-time equivalent (FTE) community paramedics (CPs) to provide much needed primary care services in up to 100 rural BC communities. BC Emergency Health Services (BCEHS) leads program implementation, working closely with BC's Ministry of Health, regional health authorities, the Ambulance Paramedics of BC (CUPE Local 873), the First Nations Health Authority, and others.

The two primary objectives for community paramedicine in BC are:
1. Contribute to the stabilization of paramedic staffing in rural and remote communities by introducing community paramedics with the ability to augment additional shifts in emergency response capabilities.
2. Bridge health service delivery gaps in communities, identified in collaboration with local primary care teams and consistent with the paramedics' scope of practice.

The Program Delivery Goal is: Deliver care consistent with Quadruple Aim (see Figure 1).

The program's objectives align with and support the BC Ministry of Health's strategic directions as stated in Primary and Community Care in BC: A Strategic Policy Framework (2015), which are as follows:
- Improving Health: Develop innovative ways to promote and support individual responsibility for health and healthy living;
- Develop primary care locally and improve access to specialized care: explore ways to overcome transportation barriers for rural residents including high and low acuity transport; and,
- Encourage local innovation in meeting health needs: create partnerships to find innovative solutions to transportation and access issues.

Upcoming milestone:
In 2018, community paramedicine will expand CP roles, scope and communities with the hiring of the final cohort of CPs.

Figure 1. Quadruple Aim projects are designed to contribute to improvement in four areas

1. Patient Experience
2. Health of Population
3. Reduced Costs
4. Improved Provider Work Life/Well-Being

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7 CPs work in rural and remote communities located across the province’s health regions: Northern Health, Interior Health, Island Health, Vancouver Coastal Health, and Fraser Health.
8 76 BC communities will be served by 107 part-time CPs (56.5 FTEs) by the end of 2017. An additional, 23.5 FTEs will be recruited by March 2018.
9 The CPI Evaluation Framework (February 2016) was finalized as the phrase 'Triple Aim' was transitioning to 'Quadruple Aim'. This transition has been completed; in this report we refer to the Quadruple Aim, which includes improved provider work life/well-being as Aim #4. The difference between transitions is being harmonized in this report and the Evaluation Framework.
CP Scope of Practice

CPs in BC are Primary Care Paramedics with IV endorsement who have been oriented to use their skills in non-urgent settings, in patients’ homes or the community. They provide primary care services within their scope of practice and in partnership with local health care providers. Services include (but are not limited to) monitoring blood pressure, assisting with diabetic care, helping to identify fall hazards in homes, supporting medication self-management, post-injury or illness evaluation, and assisting with respiratory conditions. Such work contributes to advancing principles put forth by the Ministry of Health\(^\text{10}\) including the support of integrated and comprehensive patient-centred health care involving health promotion and disease prevention.

Community paramedicine in BC is intended primarily for patients 65 years and older who are living with chronic conditions such as heart failure, chronic obstructive pulmonary disease (COPD), and diabetes, or are at risk of falls.

Evaluation Background

BCEHS sought independent expertise to guide the evaluation component of this initiative, which is overseen by the initiative’s Evaluation Advisory Committee. Catalyst Research and Development Inc. began work in fall 2015, with the creation of the Evaluation Framework that is the map for all evaluation activity. The Framework was followed by the release of a short, snapshot report to provide early insight in to process considerations (2017 03). This Interim Report delivers substantive insight in to formative (process) considerations. Towards the conclusion of the initiative’s cycle (2019), summative reporting (outcomes) will offer an assessment of the project’s contribution to outcome achievement (final report due 2019 04).

The purpose of the evaluation is to inform BCEHS as to how well the community paramedicine initiative is doing in achieving its own objectives and, more broadly, delivering services in alignment with the BC Ministry of Health and the BCEHS Strategic Plan.\(^\text{11}\)

The evaluation objectives are to:\(^\text{12}\)

- Determine the extent to which the initiative achieved its objectives and supported related decision-making.
- Inform BCEHS as to how well the initiative delivered services in alignment with the Quadruple Aim, BC Ministry of Health’s strategic directions, and the BCEHS Strategic Plan.
- Identify important lessons to be learned and recommendations for future implementation.
- Analyze the impacts or changes that have occurred and provide evidence/ data to support policy and practice changes for the initiative (final report only).
- Analyze implementation focusing on the initiative’s structures and processes (final report only).

\(^{10}\) BC Ministry of Health (2015). *Primary and Community Care in BC: A Strategic Policy Framework.*

\(^{11}\) In the program’s most recent Business Case, it also mentions: the evaluation is for the purposes of informing, learning, improvement and [not only, as above] accountability.

\(^{12}\) These objectives are outlined in the most recent iteration of the Evaluation Advisory Committee’s Terms of Reference (2016 01 27, p. 1).
Program enablers that could be contributing to success have been identified in the Evaluation Framework, as the following:\(^{13}\):

- Strong visible support from project sponsors and regional health authorities;
- Clearly defined scope of practice and effective scope management;
- Effective relationships among stakeholders and practitioners;
- Effective utilization of resources and roles relating to community health service delivery gaps; and,
- Integration and collaboration in patient-centred care.

Section 2. Methodology

Background and Approach

This evaluation was designed as a mixed method data collection process (using both quantitative and qualitative data) and accessed multiple lines of evidence (i.e., perceptions of CPs, stakeholders involved in the implementation, and patients [health outcomes]). Mixed methods ensure robust triangulation of implementation evidence arising from the evaluation, across nine lines of evidence. Figure 2, below, visualizes the community paramedicine program data sources. Red font indicates data reviewed for this interim report; black font indicates data to be included in the final report (2019 04).

Figure 2. Data Collection

Primary data captured for this interim report (between May 1, 2016 to August 31, 2017) derives from those respondents who meet the following criteria:

- **PrePost Orientation Survey:** respondents from prototype communities and Northern Health CP cohorts only, with a six-month time period elapsing between the pre and the post;
- **CP Experience Survey:** respondents from prototype and Northern Health CP cohorts only, with a minimum of six months CP work in field;
- **EQ 5D**: patients, (from Northern, Island, and Interior Health) who had a minimum of two visits with the CP, with a minimum of six weeks between Time 1 and Time 2; and,
- **Key Informant Interviews:** with stakeholders (n=8) who have knowledge of the implementation process of the community paramedicine program.

### Description

#### 1. Key Performance Indicators (KPIs):** The KPIs for this initiative, and approved by EAC in September 2016, are as follows:

- **a. CP Services by type:**
  - # CP services provided (overall) and by “unique” patients
  - # Patients seen by condition (diabetes, heart failure, and COPD)
  - # CP services requested, broken down by type
  - # Community events attended

- **b. Access to CP services:**
  - # Days from time of booking to first meeting with patient

- **c. CP services adequate for services requested:**
  - # and % of events CPs unable to attend due to capacity constraints
  - # Declined referrals (due to scope limitations)
  - # Days from time of booking to first meeting with patient

- **d. Health system outcomes (exploratory):**
  - ED re-visits (aggregate, seven days post initial visit with the CP) by three patient types: diabetics, heart failure, and COPD.

The community paramedicine program has been reporting these KPIs in their Community Paramedicine Dashboard Report. This dashboard report forms part of the program’s bi-monthly update to the three health authorities served by CPs at this time.

The final evaluation report (2019 04) will include an aggregate dashboard of KPIs (to allow a trended perspective of the data over time). The final report will also explore preliminarily the impact of CP services on patient health system utilization. Time delays in accessing this ministry data precluded any reporting of these indicators as part of this interim report.

Finally, the community paramedicine program has been in discussions to study the long-term impact of providing CP services using a case/control study design. This study will be organized and carried out by Provincial Health Services Authority (PHSA) and is separate from the Catalyst evaluation contract.

#### 2. Program Data:** The data for this report covers the period of May 1, 2016 – August 31, 2017, and is reported in aggregate. Data will cover information about those who have completed the orientation

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14 EQ 5D is a patient outcome measure survey (self-report).
program to take on the role of CPs, as well as the types of services delivered by CPs. Data included in this report are:

a. **Program Statistics:**
   - # Referrals, by whom
   - # Services provided by condition, by type (detailed)
   - # Community events attended by CPs, by topic

b. **Staffing Statistics:**
   - # CP positions
   - # Part-time positions

c. **Community Statistics:**
   - # Communities selected to receive CP services
   - # Communities with CPs in field

3. **Patient Profiles:** Such information includes the age, gender, primary language spoken at home, and co-inhabitants (supports) living with the patient. In addition, the health services delivered to the patients served by CPs between the period of May 1, 2016 – August 31, 2017, have been summarized.

4. **CP Surveys (two types):**

   a. **PrePost Orientation Surveys:** The CPs completed the ‘Pre’ survey just before beginning the education program. The ‘Post’ survey was completed after six months of practice within the extended scope of practice. The survey captured knowledge / skills / confidence data relating to the four learning areas of: falls risk assessment; chronic disease monitoring; supporting medication self-management; and health system navigation. The data is reported as matched pairs; for the interim report we have n=15 pairs of data (from the prototype and Northern Health communities). Note that at pre-survey data collection n=41 surveys were completed, indicating a 36% response rate at post-survey completion.

   b. **CP Experience Survey:** The CPs completed this online survey after a minimum of six months experience in the field. The survey captures CPs’ experience in the following domains: recruitment; professional development and team learning; design and delivery; collaboration and continuity of care; patient work; community engagement; and job satisfaction. This data was completed by n=28 respondents (from the prototype and Northern Health communities) and represents a 100% response rate.

5. **Patient Outcome Measure Survey:** Obtaining patient reported outcome measures (PROMs) is one of the Quadruple Aim measures. Data is derived from the EQ-5D survey, a validated tool that appropriately captures patient self-reported health outcomes. This survey was administered during visits with clients at Time 1 (T1) and, a minimum of six weeks later, Time 2 (T2). For this report we have data from n=15 clients. This was difficult data to collect as the CP had to estimate the likelihood of the length of time they would be seeing patients as this is dependent on the referral request that sometimes is extended, and also on patients’ health condition, interest, etc.

   In summary, at T1, n=39 surveys were collected; however, due to factors such as patient death, declining a second visit, etc., fewer T2 surveys were completed, resulting in 38% completion at T2.
6. **Key Informant Interviews (KIIs):** Interviews were undertaken with key stakeholders who could provide an assessment of the progress being made in implementation (structure and process) and performance (preliminary outcomes). This data is intended to support learning and decision-making about further development of the program. A total of eight people were interviewed for this report.

**Evaluation Strengths and Limitations**

**Several methods and mechanisms were used to enrich the data collection process** and increase confidence in the overall results. These included:

- An Evaluation Advisory Committee (EAC) oversees the evaluation process and is inclusive of key stakeholders to this work, including patient representatives. This group has contributed to all evaluation documents and plays an important role in results mobilization.
- An evaluation framework was created for this initiative at its start, and so systems to collect the necessary data were built into the advancement of the initiative, including discussions on how to obtain the permissions to receive Ministry data (e.g., health services) for use in the final report.
- The use of multiple lines of evidence in order to triangulate findings and increase the reliability of the analysis.
- Accessing multiple stakeholders from distinct groups (i.e., health system, CPs, patients, project team).
- Testing the use of EQ 5D, a validated functional health status tool, to capture patients’ self-reported perceptions of health.

**There were also some limitations associated with the implementation** of the methods described above. These included:

- Potential for a respondent bias in the KIIs as those purposefully recruited were not taken from a randomized list. This will be corrected in the final evaluation report. However, while this bias is noted, the data is useful for a formative evaluation, especially when triangulated with other lines of evidence and the qualitative data is brought in to perspective.
- Lower than hoped for CP respondents for the PrePost Orientation and Experience surveys. This was due in part to the slower rollout of the project than originally planned, resulting in fewer health authorities having CPs who achieved the time in field (six months) required for taking the surveys in time for interim reporting. In addition, the methods used to motivate CPs to complete the PrePost Orientation Survey to increase the number of matched pairs were not sufficiently interesting; this requires problem solving for the final report.
- Low responses to the PrePost Orientation Survey impacted the number of matched pairs for data analysis and were deemed too low for significance testing.
- Lower than hoped for patient responses at T1 and T2 for the EQ 5D (health outcome) survey. This also made it impossible to complete significance testing (for minimally important differences). This challenge requires some strategizing with the CPs to increase the numbers for the final report.
- Due to the time delay in data access for this program, this report is unable to provided data on any impacts that CPs have contributed to on patients’ interaction with the broader health system (e.g., ED visits, and hospitalizations). The evaluation team is grateful for those who have been helping to ensure that Catalyst is able to obtain such data for the final evaluation report to do some exploratory work.
Catalyst believes that these limitations do not affect the value of the evidence provided in this interim report. There is a rich array of useful information to assist organizational learning and decision-making as BCEHS continues to move community paramedicine into its regular operations. The data is showing trends towards the importance of deploying CPs in rural and remote communities to address health system gaps and to strengthen awareness of health promotion and primary care health.

Section 3. Evaluation Results

This section presents a triangulation of data results to address key evaluation questions (located in the Evaluation Framework) relevant to interim reporting. Results are presented by the two program objectives and one goal.

Data Collection Contexts

In the framework of program implementation, the summer of 2017 included two events that should be noted as possible influencers of project work: a change in government and the summer wildfires. For more information on these environmental contexts, see Appendix B1.

The Work of BC Community Paramedics

To contextualize the data reported it is helpful to understand the context in which this program is delivered within BC and by CPs working in rural and remote communities.

Communities receiving CPs were selected using an evidence-based model that looked at areas defined as rural, small rural, or remote by the Ministry of Health, and that are served by an existing ambulance station. Priority was given to those ambulance stations with on-call staff only and therefore at greatest need of a more stabilized paramedic presence.

As of September 30, 2017:

- 80 CPs had been hired and of those 44 had completed their orientation and were working in communities in Northern, Interior and Island Health;
- These CPs were hired into positions at .53 or .67\textsuperscript{15} full-time equivalent; and,
- CPs’ shifts are 10 hours per day.

In general, CP time is spent connecting with local health care providers (including physicians, nurse practitioners, chronic disease management nurses, and staff at local hospitals), visiting patients in their homes, and attending community events (health promotion, education and community building). Such efforts are done to promote integration of this new role into local health care teams as well as communities.

When CPs first start in communities, they spend time meeting with local community representatives including band councils to build rapport, convey information about their new role and answer questions. CPs interact with their regional training officers (RTOs), the patient’s primary care team, health authorities (via hospitals and their medical staff in particular), and the BCEHS CP management team (Figure 3).

\textsuperscript{15} CPs that are hired at .67 FTE work two days one week and the next week work three days.
Figure 3. Reporting and local engagement interactions

From January 1, 2016 - August 31, 2017, CPs and RTOs\(^{16}\) provided care to a total of 466\(^{17}\) British Columbians living in rural and remote communities selected for community paramedicine. Nurses are initiating the greatest percentage of referrals for CP services (46%) while another 36% come from physician.

The “typical” CP patient is:
- Seventy-five years old or more (50%)
- Male (47%)\(^{18}\)
- English-speaking (86%)
- Living alone (41%) or with their spouse (30%)
- Receiving a visit from the CP within seven days of referral (70%)\(^{19}\)

On average, CPs visit patients \textbf{10 times} and provided services including, but not limited to, blood pressure monitoring, physical assessment, supporting medication self-management, diabetes follow-up, and falls risk screening. The number of services provided to a patient is dependent on patient need as well as the referring provider’s request.

Since project roll out, CPs across the province responded to 40,911 calls while on their CP shifts. Twenty-seven (27) were high acuity calls. As of interim reporting, only one referral was unable to be fulfilled due to the request being out of scope. In a few cases (two), a patient declined a visit by a CP or a CP was unavailable (three).

\(^{16}\) CPs were hired into and began providing services in the nine prototype communities in mid-October 2016. Prior to this, CP services in the prototype communities were provided by appointed “CPs” who later became RTOs.

\(^{17}\) This number (466) is an estimate and potentially an undercount. When initial record systems were set up to document the patients served by CPs, paper charts were relied upon before an e-system was established to capture information in February 2017.

\(^{18}\) Gender not captured in some cases (11%).

\(^{19}\) Accessibility was tracked starting in March 2017 for 209 patients. \textit{Accessibility} is defined as time from referral to CP to actual visit from CP.
The majority of primary health care services provided to patients within their homes fall within these areas:

- **Physical assessments** (including vitals check, head-to-toe checks) to support and stabilize patients’ chronic conditions;
- **Falls prevention and safety assessments** (including home safety screening and falls risk assessment);
  - Falls are the main reason older adults lose their independence\(^\text{20}\)
- **Heart failure** (including blood pressure monitoring; pulse and weight check); and,
- **COPD-related care** (including oxygen saturation checks and inhaler medication);
  - COPD exacerbation results in more hospitalizations than any other chronic disease\(^\text{21}\).

### Table 1. Services requested, overall (delivered within patient homes, high level description)\(^\text{22}\)

<table>
<thead>
<tr>
<th>Service Category</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical assessment</td>
<td>318</td>
</tr>
<tr>
<td>Prevention/safety assessments</td>
<td>261</td>
</tr>
<tr>
<td>Heart failure</td>
<td>176</td>
</tr>
<tr>
<td>COPD-related</td>
<td>96</td>
</tr>
<tr>
<td>Diabetes</td>
<td>78</td>
</tr>
<tr>
<td>Education</td>
<td>10</td>
</tr>
<tr>
<td><em><em>Other</em> (i.e., supporting medication self-management, friendly visit)</em>*</td>
<td>353</td>
</tr>
</tbody>
</table>

\*From ‘Other Assessments’ field on Request for Patient Specific Service form

CPs and RTOs also provide other services in rural communities, such as leading or participating in community health education and promotion sessions. From January 2016 to August 2017, CPs and RTOs participated in **1,513 community events**. In the first few months on the job, CPs actively promoted their presence and the program within their communities. As they became more established, CPs spent more time participating in community events (e.g., health and wellness fairs, potlatches). This provided opportunities for collaboration with other health service providers and allowed CPs to become more engaged in community life, increasing CP program visibility amongst residents across the age continuum.

Through the KIs, respondents confirmed the great value in allowing the CPs to become familiar with and active in the communities through such events. This public engagement raised the prominence of the new role CPs had in providing service to citizens in communities; talking about the work they would be doing; and, answering questions. In future rollouts, this strategy will continue as it has helped CPs become integrated into the community.

**Program Objective #1**

The community paramedicine program was designed to contribute to the stabilization of paramedic staffing in rural and remote communities by introducing community paramedics with the ability to

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\(^\text{20}\) Seniors’ Falls in Canada, Second Report, 2014

\(^\text{21}\) The Human and Economic Burden of COPD: A Leading Cause of Hospital Admission in Canada, February 2010

\(^\text{22}\) See Appendix B3 for full description of Community Services provided

\(^\text{22}\) Categories from BCEHS Community Paramedicine Request for Patient-Specific Services form, v. May 30, 2017
augment additional shifts in emergency response capabilities. Project implementation has resulted in contribution towards this goal, as the evidence shows.

The program succeeded in attracting and retaining paramedics to work in BC’s rural communities.

1.a. Did the community paramedicine program help to attract and retain paramedics?

Currently, the community paramedicine program has recruited 80 part-time CP positions for the 76 rural/remote communities selected across the province:

- Of these, 44 part-time positions are currently fully operational in the prototype, Northern and Interior Health (Phase 1) communities.
- Of these, the majority had worked as a paramedic for 11+ years (47%), prior to accepting the CP position.
- To date, they have served a total of n=466 net new patients from project roll out.

PrePost Orientation Survey data indicates 53% of CPs average six to eight shifts/month with an additional 40% managing nine to 12+ shifts.

CP Experience Survey respondents were asked a series of questions on the recruitment and selection process, and retention plans. The majority agreed the process was well organized (75%) and their questions about the CP role were addressed (71%). However, only 54% agreed they understood the role and expectations prior to accepting the position. In addition, 43% agreed they felt the relocation process was clear (29% strongly disagreed). Concerning the number of positions offered, in the prototype, Northern and Interior (Phase 1) communities, a total of 42 positions are filled, with 13 positions vacant (five vacant from attrition, eight never filled). Finally, 81% of respondents noted that they plan to continue in their role for the next 12 months.

During the KIIs, respondents were asked about whether they believe this new role for paramedics has been attractive. The majority agreed, noting the positions have been fairly easy to fill with qualified individuals. The appeal has been access to living in rural/remote communities and earning a livable wage. Those interviewed said that in most cases, there are applicants for the positions when they open up; however, in some communities, it is challenging to find qualified applicants to serve. In addition, some questioned whether part-time positions would keep paramedics in these positions over time and thereby create stability for the service as well as building the collaboration with the local health care teams. As exit interviews are completed should a CP choose to leave the position, it will be possible to monitor the retention situation over time. All agreed that finding the right qualified individual for the CP position is what will retain the professional over time.
The program succeeded in impacting individual practitioners/providers

1.b. In what ways did the community paramedicine program impact individual practitioners/providers?

CP Experience Survey respondents were asked about job satisfaction and the majority agreed they are satisfied with their job (95%) and that they are making a valuable contribution to health service delivery and emergency response services in their communities (95%).

In terms of unintended outcomes that impact job satisfaction, respondents (x5) commented that patient death is felt more deeply because a relationship has been started with them.

Respondents experience satisfaction in being able to visit patients recommended to them (95%) and also with the opportunity to pick up additional kilo or on-call shifts (80%) with two respondents noting they pick up those shifts to maintain patient continuity.

Beyond their experience with the orientation provided, CPs affirmed participation in professional development (PD) opportunities when offered (100%). On the job, they continue to assess increasing competency (93%) and increasing knowledge about their community’s health needs (100%). This aligns with results from the PrePost Orientation Survey: CPs reported their training was tailored to their learning and training needs (87%); effective (80%); and helpful in building relationships with their patients (80%). They also observed this PD was less helpful in building relationships with other professionals (60%) and in providing adequate learning resources (60%). However, 67% agreed they had received access to evidence-informed practice information.

Overall, CPs (in the Post Orientation Survey) agreed the PD provided: the knowledge (80%); the skills (87%); and the confidence (73%) they need for CP practice. It has increased their confidence in working with diverse populations (73%). The PD was less effective in supporting patients in navigating the health system/accessing appropriate services (60%); and accessing additional information and networks to support practice (66% each).

Overall, the success of the PD program is grounded in the CPs reporting increased competency (knowledge, skill and confidence) in all four learning areas relevant to their new role: falls risk assessment; chronic disease monitoring; medication self-management; and health system navigation. While the number of matched pairs is small, the trend does show increased capacity that is attributed to Community Paramedicine Orientation Program (Figure 4, 5, 6, 7).
Figure 4. Please indicate your current level of knowledge, skill and confidence in the “falls risk assessment” learning area PrePost orientation (n=15)

<table>
<thead>
<tr>
<th></th>
<th>Pre</th>
<th>Post</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knowledge</td>
<td>53%</td>
<td>64%</td>
</tr>
<tr>
<td>Skills</td>
<td>54%</td>
<td>57%</td>
</tr>
<tr>
<td>Confidence</td>
<td>53%</td>
<td>57%</td>
</tr>
</tbody>
</table>

Figure 5. Please indicate your current level of knowledge, skill and confidence in the “chronic disease monitoring” learning area PrePost orientation (n=15)

<table>
<thead>
<tr>
<th></th>
<th>Pre</th>
<th>Post</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knowledge</td>
<td>53%</td>
<td>64%</td>
</tr>
<tr>
<td>Skills</td>
<td>54%</td>
<td>57%</td>
</tr>
<tr>
<td>Confidence</td>
<td>53%</td>
<td>57%</td>
</tr>
</tbody>
</table>

23 Note sample size was too small to support significance testing. We trust we will be able to provide this in final reporting.
Figure 6. Please indicate your current level of knowledge, skill and confidence in the “medication self-management” learning area PrePost orientation (n=15)

<table>
<thead>
<tr>
<th></th>
<th>Pre</th>
<th>Post</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knowledge in medication monitoring?</td>
<td>60%</td>
<td>40%</td>
</tr>
<tr>
<td>Skills in medication monitoring?</td>
<td>60%</td>
<td>40%</td>
</tr>
<tr>
<td>Confidence using medication monitoring...</td>
<td>60%</td>
<td>40%</td>
</tr>
</tbody>
</table>

Figure 7. Please indicate your current level of knowledge, skill and confidence in the “health system navigation” learning area PrePost orientation (n=15)

<table>
<thead>
<tr>
<th></th>
<th>Pre</th>
<th>Post</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knowledge in health system navigation?</td>
<td>67%</td>
<td>34%</td>
</tr>
<tr>
<td>Skills in health system navigation?</td>
<td>60%</td>
<td>40%</td>
</tr>
<tr>
<td>Confidence using health system navigation...</td>
<td>59%</td>
<td>40%</td>
</tr>
</tbody>
</table>

Legend:
- Limited (1-3)
- Moderate (4-7)
- Expert (8-10)
In terms of **areas of challenge**, CP respondents to the Experience Survey note the following:

- 61% are neutral or do not agree their regional CP team meets to share experiences and discuss ways to improve.
- 48% are neutral or do not agree they have received the supervision they need from their unit chiefs.
- 39% are neutral or do not agree they receive the practice support they need from their RTO.
- 30% are neutral or do not agree they have the supplies and equipment needed to deliver CP services.

**CPs identify successes in delivering services:**
- Seeing patient improvement (x8)
- Reducing ER visits (x5)
- Patients more comfortable at home (x4)
- Slowed progression of disease (x3)
- Acceptance within the community (x3)
- Supported by other health professionals (x2)

*CP Experience Survey open-ended question*

During the KIIs, most agreed that living and working in one's own community is especially attractive to most paramedics. While the CP role does guarantee a stable part-time wage they can count on, respondents observed many might need to complement this work with another part-time position (depending on their life situation). A few respondents expressed concern that with the new pre-kilo guarantee, this role will not attract paramedics to move into a CP role. Kilo guarantees may “offset the attractiveness of this new role.”

In addition, some are hopeful that the CP position will increase to a .76 FTE in the future in order to boost paramedic service in rural and remote BC communities. Another suggestion to further retain CPs was to create a type of super-nummery whereby the paramedic might be able to step in to fill other positions (lab technician was given as an example). By taking on these temporary situations, CPs will further strengthen health care services within rural/remote BC. In addition, by so doing CPs keep their skills within the health system.

**Community paramedicine contributes to improved collaboration/integration at the community level**

1.c. Has the program improved collaboration/integration at the community level?

Community paramedicine program data outlines the number of committees (seven) and the frequency of their meetings as one indicator of the extent of collaborative dialogue occurring at provincial, regional, and practice levels of this project (see Appendix B2).

The CP role includes providing education, supports, and other types engagement for their communities.

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24 Effective July 1, 2017 BCEHS implemented a four-hour supplementary kilo pay to all kilo paramedic shifts across the province that do not receive a call-out during the shift. This interim measure provides more stability for on-call staff by providing a guaranteed income for each shift (BCEHS Action Plan Update, Summer 2017).

25 Summative reporting will include data on provincial level impacts.
In data collected up to 2017 08 31 CPs delivered the following:

**Figure 8. Community Services Provided (n=5,992 events)**

![Community Services Provided](chart)

While most CP hours are spent providing care to patients in their homes, attendance at community events has served as a way to both meet local community agency representatives and promote the role of CPs in the area. See Appendix B4 for more information about the specific types of events CPs have been attending.

In addition, CPs were asked questions about their experiences with collaboration and the provision of continuity of care (CP Experience Survey). The majority of participants agreed:

- They understand role of other health care professionals with whom they work (87%)
- They are developing good, collaborative relations with other organizations and care professionals they work with on a regular basis (87%)
- They are sharing patient information in a timely way with other health care professionals (78%)

In the PrePost Orientation Survey, CPs report the training they received on building relationships with other professionals working in their community was helpful (60%). In addition, the majority of CPs noted they participate in the promotion of healthy living in collaboration with the community (74%) and provide health education sessions in their community (78%).

Interviews have also confirmed the success achieved by the CPs as they skillfully advanced the integration of this new position within the local health teams. A few respondents acknowledge there was some initial hesitancy to accept CPs, because “CPs might take local jobs.” When this concern was expressed, it allowed RTOs and CPs to ask other health providers, “How can I make your life better?” This question allowed for further conversation about the CP role. These dialogues, and then working
together, allowed trust and cooperation to advance the integration of the CP role in local communities. One respondent identified an unanticipated positive outcome in that the CP position has increased interactions with hospital staff overall. This has opened up communication and collaboration between ambulance staff and hospitals beyond the “ED door.” As a result, the paramedic role in patient transport has extended through CP work to include discharge planning that coordinates care for a patient transitioning back to their home.

- **CPs begin to support system emergency response capacity although results are uneven and emergent**

1.e. Did the program improve system emergency response capacities (e.g., times, coverage)?²⁶

The CP Experience Survey invited respondents to comment on their shift availability beyond their part-time work as CPs. When asked if their shift availability as a paramedic had changed or stayed the same since taking on the CP role, the majority indicated they were less available (64%), while 21% noted it had stayed the same, and 14% were now more available. On the other hand, 80% agreed they have been able to pick up additional kilo shifts. This indicates some of the unevenness of this emerging data as the CPs adjust to the work flow in their communities.

For this interim evaluation, no data has been requested that examines whether the role of a CP has impacted coverage of kilo shifts; however, it will be something for BCEHS to monitor over time. This can be further explored in the final report.

During the interviews, some respondents expressed concern that there might be less willingness for a paramedic to “carry a pager” because they now have a stable part-time salary through their CP position that complements their other part-time work. Stable work means newfound financial stability may potentially impact emergency transport coverage in the community.

Others observed that rapport and trust is developing between the community members and the CP as a result of their visible presence in the community. This then allows for preventative advice/care to be given rather than having the patient wait for a health condition to worsen, increasing the likelihood of an emergency call later. Some expressed worry that due to the small town nature of these communities, this growing comfort/trust has resulted in some CPs being contacted at their homes when a need arises, even when they are not working a shift.

### Snapshot: “CPs in the Right Place at the Right Time”

After delivering a community health program Ahousaht, two CPs were on their way back to Tofino when they heard over the VHF radio of a small plane crash. They headed directly to the scene and were the first responders. They coordinated efforts with the Ahousaht First Nation to assess, triage and care for the patients until the Coast Guard arrived. Both patients were transported from the scene in stable condition.

- **Summary of BCEHS Weekly Bulletin item (2017 08)** as cited in Island Health Bi-Monthly Update – July/August 2017

²⁶ Note that evaluation question 1d is relevant to final reporting only.
Program Objective #2

Bridge health service delivery gaps in communities, identified in collaboration with local primary care teams, consistent with the paramedics’ scope of practice.

To some extent the community paramedicine program did contribute to bridging delivery gaps identified at the community level

2.a. Did the community paramedicine program contribute to bridging the delivery gaps identified at the community level (i.e., in health promotion, prevention and primary care) from the health authority and CP reflection on patient experience?

Respondents to the CP Experience Survey have noted solid understanding of, and orientation in, their scope of work as CPs. Further, they identified cooperation and collaboration in the delivery of services and in work with other community health providers. The majority (91%) agreed they are working with their ‘identified populations (e.g., diabetes, COPD, heart failure) and that other health professionals are using CP care plan recommendations (72%). Overall, the majority (83%) agreed they are experiencing successes in delivering CP services.

When asked to provide comments on supporting patients to avoid unplanned acute health visits, CPs responded:

- Educating patients on their conditions for better health management (x5)
- Education on diseases and how medications help contribute to positive outcomes (x3)
- Identifying (expired) medications patients should not be taking and/or providing prescription refill reminders (x3)
- Symptom management and awareness of issues requiring intervention (x2)

They have also faced some challenges that are barriers to service delivery:

- Not all clients meet the criteria for their work, but this is in part because the see the criteria as ‘constantly changing’ (x5)
- 53% agree they have experienced barriers/constraints in delivering services and provided the following comments:
  - Indigenous communities and seniors lack trust in health professional staff (x2)
  - Not trained in health and socioeconomic topics they are asked to discuss (x2)
- Sharing information with other health professionals can be problematic as the process is not streamlined (x4)
- 30% did not agree that they ‘have the supplies and equipment needed’
  - CPs who were the first responders to a plane crash noted they had insufficient cell coverage to call in their report, and the incident underscored the need for CPs to carry the kind of equipment required to respond to emergency situations in remote communities

Summative reporting will include more on system and direct patient perspective.
CPs, in both the Experience and PrePost Orientation surveys, identified wanting continued learning opportunities, citing the need for more practice support from their RTOs and more supervision from their unit chiefs, more opportunities to talk with the regional team, more learning resources, and ongoing access to evidence-informed practice information.

Interview responses also confirm that great progress has been made to bridge service delivery gaps. Having additional local health care team members provide home-based services was greatly needed in the communities that have received CPs. The need was present and the CP was able to step in and fill the service gap.

Anecdotally, some reported noticing fewer calls for 911 services from “familiar faces” because preventive care is now available from CPs. Most believe that this new primary care support may have already started to decrease the number of 911 calls and subsequent transports to emergency departments. Others cautioned about overstating BCEHS’ ability, through CPs, to fill all the existing service delivery gaps. CPs are still only working part-time positions. In addition, CPs do not provide coverage on weekends, which is when there are fewer other services to turn to when chronic conditions might pose challenges and require a quick physical assessment or “friendly visit” to those living alone.

Answering this question with confidence requires a review of both 911 data as well as data related to ED visits (by day of the week/time of day). This will be done for the final report.

Community paramedicine appears to be contributing to increased local capacity to address identified issues/gaps

2.b. Did the community paramedicine program build local community capacities to address identified issues/gaps?

Program data and the CP Experience Survey both indicated the extent of the community education/health promotion work being provided by CPs. Respondents agreed they actively promote CP services in their community (96%) and the use of primary health care (100%). In their experience to date, they assess the program as fitting the needs of the local community (69%). The majority self-identify community awareness as high (82%) and positive about the program (96%).

2.c. Did the program help establish a new type of health service delivery?

All interviewed believe that rural communities and their health care teams are overall positively receiving CPs. Paramedics with the PCP IV license and who have completed the orientation program seem prepared to serve in this new type of health service delivery.

During the interviews, those involved in planning and implementation reflected on BCEHS’ “can do attitude” approach in rolling out the service. All reported that the planning went according to schedule and the phased rollout worked well for the selected communities. Having the prototype communities serve as “mini” learning hubs proved to be informative. This process required thought be put into data quality, regular communication, and providing webinars for RTOs. Some reflected there probably

BCEHS is naturally a very reactive organization. Sirens go, we go! Planning doesn’t happen naturally….it was more than just a question of hiring a CP and “putting you out there.” A lot of planning work got us to this point.

Summarized from Key Informant Interview Sept 2017
should have been more emphasis on data input (charting) in the early days. They observed this need for data capture is a major difference in working in a CP role (e.g., there is a need to communicate with the local health care team via documentation to contribute to information continuity). One respondent remarked that this was “all new in BCEHS medicine.” Several remarked that “faxes had to be brought back into stations” in order to communicate with other members of the local health care teams. This was done because the need to communicate with the other local providers demanded such accommodation.

Program Delivery Goal

Deliver care consistent with Quadruple Aim

Aim #1. Community paramedicine achieves some successes in improving patient experience

3.a. Did the community paramedicine program improve patients'/clients' experience?

In the PrePost Orientation Survey, CPs were asked about patient-related outcomes. The majority agreed the orientation they received would support patients in: having improved access to health information (80%); increased capacity to participate in addressing their own health needs (67%); improved knowledge of treatment options in BC (60%); and be more likely to address their health needs (53%).

In the interviews, participants were hesitant to respond to this question, as they did not want to speak for patients. They did note that it is still “early days” for the CP. However, a few shared stories that indicated some CPs are developing trusting relationships with patients to support continuity of care provision.

3.a.i. Did the community paramedicine program improve access to services and self-management skills for identified populations?

Respondents positively self-assessed their work with patients across their scope of practice in the CP Experience Survey (Figure 9). Of note: 100% affirm supporting patients through providing health information and in medication self-management; 96% support accessing primary care services; and, 91% support patients in avoiding unplanned acute care visits.

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Note that patients will be surveyed to ensure their voice is captured in the final evaluation report.
**Aim #4. Community paramedicine contributes to provider work life and well-being**

3.d. Have CPs experienced improved work life and well-being?

It is difficult to answer this question with strong evidence, as the CP role within rural/remote communities is still in its early days.

When considering this question, it is important to reinforce that most patients being referred to CPs already experience severe health challenges. Caring for patients with chronic disease that may be difficult to manage and who may be in their later stages of life comes with its own professional challenges. Several KII respondents shared that the patients currently receiving CP care are often close

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29 Quadruple Aim #2 (Population Health) will be addressed in the summative report based on data captured by the EQ 5D tool and BC health system data. Quadruple aim #3 (Reduced Cost) concerns reducing health system will be based on data captured by the BC health system concerning reduced ED and 911 calls in the communities.
to the end of their lives. A few noted that this was somewhat unexpected and has ramifications for two different areas as it pertains to CP work life and well-being.

Firstly, some observed training in palliative care will be needed (or needs to be enhanced) to ensure the CPs are confident to provide care to palliative patients. Secondly, CPs may be unprepared to provide regular care over time to those whose chronic conditions will not be improving. At best, stabilization might be all that can be expected. Respondents noted caution should be exercised; it may not be possible to improve patient health outcomes. However, the quality care they do receive in their home within their rural community might actually help patients stay free from worry and maintain their independence for as long as possible. CP services may even make it possible for patients to die at home, if this is their wish. Once supported to work with such patients, the practice of palliative care may actually enhance a CP’s well-being as they are contributing to ensuring that patients have a comfortable death at home.

Finally, the regular employee supports that CPs (as well as all paramedics) are eligible to receive, as staff of BCEHS, should be covered during orientation and reiterated in the follow-up meetings. So doing might prevent/mitigate occurrences of PTSD, as well anxiety and depression. This relates to the fourth AIM (care of the provider) and having this captured within this formative evaluation allows for the program to address such concerns through a variety of means.

Section 4. Summary and Recommendations

Summary

In general the data shows the community paramedicine program is moving forward in contributing to program objectives and delivery goal achievement. Both the March Snapshot Report (2017 03 31) and this Interim Report show general agreement and alignment in program implementation successes and challenges.

However, additional community level and health system data is required for triangulation to both confirm successes and learn more about the challenges. The second wave of the CP Experience Survey will extend understanding of project results from the CP’s perspective. Increasing the number of matched pairs for the PrePost Orientation Survey and the EQ 5D will ensure analysis that can be trusted for decision-making. Along with the Patient Survey that will be implemented for final reporting, the summative data capture will extend program implementation learning through the three case studies to be undertaken in purposively selected communities.

That said, Table 2 summarizes the effective work that has been done towards establishing project enablers to support program success.
Table 2. Enablers that contribute to program success

<table>
<thead>
<tr>
<th>#</th>
<th>Enabler</th>
<th>Assessment</th>
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</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Partial</td>
</tr>
<tr>
<td>1.</td>
<td>Strong, visible support from project sponsors and regional health authorities</td>
<td>✓</td>
</tr>
<tr>
<td>2.</td>
<td>Clearly defined scope of practice and effective scope management</td>
<td>✓</td>
</tr>
<tr>
<td>3.</td>
<td>Effective relationships among stakeholders and practitioners</td>
<td>✓</td>
</tr>
<tr>
<td>4.</td>
<td>Effective utilization of resources and roles relating to community health service delivery gaps</td>
<td>✓</td>
</tr>
<tr>
<td>5.</td>
<td>Integration and collaboration in patient-centred care</td>
<td>✓</td>
</tr>
</tbody>
</table>

This interim report shows community paramedicine program implementation is a good news story; any concerns raised can be readily addressed. Table 3 offers a summary of interim report learning:

Table 3. High-level summary of evaluation findings

**Program Objective #1**
- The program succeeded in attracting and retaining paramedics to work in BC’s rural communities.
- The program succeeded in impacting individual practitioners/providers.
- The program contributes to improved collaboration/integration at the community level.\(^\text{30}\)
- CPs begin to support system emergency response capacity although results are uneven and emergent

**Program Objective #2**
- To some extent the program contributed to bridging delivery gaps identified at the community level.
- The communities did make a good start in increasing capacity to address identified issues/gaps.

**Program Delivery Goal: Quadruple Aim**
- **Aim #1:** Community paramedicine achieves some successes in improving patient experience and CPs self-assess as having contributed to improving the patient/client experience.
- **Aim #3:** Community paramedicine contributes to reducing costs to health system.
- **Aim #4:** Community paramedicine contributes to provider work life and well-being.

\(^{30}\) Summative reporting will include data on provincial level impacts.
Recommendations

The following recommendations and suggestions are offered for consideration:

Table 4. Recommendations and suggested actions

<table>
<thead>
<tr>
<th>#</th>
<th>Recommendation</th>
<th>Suggested Actions</th>
</tr>
</thead>
</table>
| 1  | Continue to engage key implementers (e.g., CPs, RTOs, and unit chiefs) in utilizing evaluation findings. This could build their capacity for both evaluative thinking and using evaluation finding to improve practices, as well as improve the summative evaluation process and findings. | a) Share findings from the Interim Evaluation Report  
b) Hold a facilitated webinar with evaluators reporting back to CPs and other key stakeholders. The evaluators will be in three communities for case studies so building relationships soon with the CPs will support the success of this future data capture.  
c) Facilitate discussion to gather further insights, identify opportunities and challenges, and generate implications for practice improvement and summative evaluation.  
d) Increase utilization of the Community of Practice (COP) meetings to facilitate CP learning and participation. |
| 2  | Create strategies to enhance data quality and collection.                      | a) PrePost Orientation Survey – increase number of matched pairs.  
b) EQ 5D Survey – increase number of matched pairs.  
c) CP Experience Survey – add questions to Wave 2 (W2) to gain clarity on kilo shifts and attractiveness of such transport shifts, as well as working as a CP. |
| 3  | Work with unit chiefs and RTOs to address and resolve concerns identified in the CP Experience Survey and KII data. | a) Discuss CP perceived need for increased access to supervision from unit chiefs.  
b) Discuss CP perceived need for increased access to practice support from RTOs.  
c) Increase meetings with CP regional teams to share experiences.  
d) Address complexities around uptake of kilo shifts.  
e) Address challenges arising from part-time CP employment creating the need to pick up other, potentially non-health system related, and part-time work. |
| 4  | Develop a strategy to engage EAC members in understanding and advising on the evaluation. | a) Strategize on ways to increase participation in EAC meetings.  
b) Develop a plan for EAC support with dissemination of community paramedicine learning and knowledge. |
<p>| 5  | Develop approaches to effectively and efficiently communicate findings to non-health system stakeholders (e.g., EAC patient) | a) Create an infographic and/or one-page, plain language document summarizing relevant learning from this interim report and disseminate. |</p>
<table>
<thead>
<tr>
<th>#</th>
<th>Recommendation</th>
<th>Suggested Actions</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Having patients add their insights and voices to this work will be essential to improve service and capture the impact on their lives.</td>
<td>Some formats to consider:</td>
</tr>
</tbody>
</table>
|    | Seek opportunities to share the lessons learned with others who are advancing the community paramedicine role in Canada and globally. BCEHS has done a great job communicating internally within BC (action plan updates, reports, meetings, etc.) but much has been learned that could advance the field generally, as well as leverage other resources (e.g., Home Health Monitoring). Possible audiences could be identified internally as well as in conversation with national partners (e.g., International Roundtable on Community Paramedicine, Canadian Public Health Association). | a) BCEHS website publishing (as in the Snapshot Report 2017 03). Consider doing this in conjunction with an announcement to key audiences outside of BC.  
 b) Canadian Paramedicine News.  
 c) Conferences and webinars associated with paramedicine in Canada and globally.  
 d) Conferences in Canada on public health (e.g., CPHA annual conferences), primary health services, and evaluation (e.g., Canadian Evaluation Society and American Evaluation Association national conferences). |
Appendix A: Survey Data Summary

1. Pre/Post Orientation Survey Data Summary
2. CP Experience Survey Data Summary
3. EQ 5D Data Summary
1. PrePost Orientation Data Summary

Background

This survey was designed to show changes in knowledge, skills, and confidence resulting from participation in a mandatory orientation program on the delivery of community paramedicine. The paramedics participate in this rigorous program designed to build on existing competencies, and extending them to include community paramedicine. The orientation program should support development of competencies to apply current scope of practice in primary health care, and understand and improve patient outcomes and experience in the long term. Community paramedics take the pre-survey before entering the orientation program (23 questions). Once the orientation is completed and the CP has up to nine months of experience in the field, they answer the 56-question post-survey.

The surveys include general questions on education background, years of work experience, etc., and the focus direction on four key areas of interest to the community paramedicine program:

- Falls risk assessment
- Chronic disease monitoring
- Medication self-management support
- Health system navigation

PrePost Orientation Survey Results

The following represents the data from matched-pair pre-post orientation survey data that is composed of 27 questions. Fifteen matched pairs of data were obtained through analysis of the survey results. The matched-pair methodology allows for direct comparison of learning objectives as a result of the orientation.

Demographic Information

In the pre-survey, participants were asked their current job classification; 67% (n=10) noted they were a PCP IV and 33% (n=5) identified as unit chiefs. When asked about their educational backgrounds, nine earned a Diploma or Certificate, two had a Bachelor’s degree and four indicated ‘other.’

Participants were also asked to indicate how many years they have been a paramedic. Forty-seven percent noted they had been a paramedic for more than 11 years. Thirty-three percent had been a paramedic for four to six years; and 20% had been a paramedic for seven to 10 years.
In the post-survey, participants were asked to describe their experience as a CP since completing the pre-survey.

Participants were asked in the post-survey how long they had worked as a CP and the majority noted from seven to nine months (87%) and 13% noted up to six months.
When asked in the post-survey how many average shifts they are working as a CP, most participants noted between six to eight shifts a month (53%); followed by: nine to 11 shifts (20%); 12 or more shifts (20%); and, three to five shifts (7%).

Survey Question Results

Participants were asked a variety of questions about the CP orientation and their experience. Responses are provided for pre and post-surveys and identified where they were asked and compared on the learning areas where data was available for comparison.
In the post survey, participants were asked questions about the CP orientation program. The majority of participants agreed the orientation: was an effective way of learning for them (80%); was tailored to their learning and training needs (87%); was helpful for building relationships with other professionals who work in their community (60%); was helpful for building relationships with their patients (80%); provided learning resources that adequately supported their learning (60%); and, provided access to evidence-informed practice information (67%).

**Figure 5. As a result of my community paramedicine orientation, I have... POST (n=15)**

<table>
<thead>
<tr>
<th>Perception</th>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Neutral</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>The knowledge I need for practice</td>
<td>20%</td>
<td>60%</td>
<td>20%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>The skills I need for practice</td>
<td>27%</td>
<td>60%</td>
<td>7%</td>
<td>7%</td>
<td>0%</td>
</tr>
<tr>
<td>Confidence I need for practice</td>
<td>20%</td>
<td>53%</td>
<td>20%</td>
<td>7%</td>
<td>0%</td>
</tr>
<tr>
<td>Confidence in working with diverse populations</td>
<td>40%</td>
<td>33%</td>
<td>13%</td>
<td>13%</td>
<td>0%</td>
</tr>
<tr>
<td>Confidence in assisting patients to navigate the health system and access appropriate services</td>
<td>27%</td>
<td>33%</td>
<td>20%</td>
<td>20%</td>
<td>0%</td>
</tr>
<tr>
<td>Access to additional information if needed</td>
<td>33%</td>
<td>33%</td>
<td>20%</td>
<td>13%</td>
<td>0%</td>
</tr>
<tr>
<td>The network I need to support effective practice</td>
<td>33%</td>
<td>33%</td>
<td>27%</td>
<td>13%</td>
<td>0%</td>
</tr>
</tbody>
</table>

Participants were also asked in the post survey to answer questions about the orientation as they pertained to skills and informational outcomes. The majority of participants agreed that as a result of the CP orientation, they have: the knowledge they need for practice (80%); the skills they need for practice (87%); the confidence they need for practice (73%); confidence in working with diverse populations (73%); confidence in assisting patients to navigate the health system and access appropriate services (60%); access to additional information if needed (66%); and, the network they need to support effective practice (66%).
Figure 6. As a result of my community paramedicine orientation, my patients will... POST (n=15)

<table>
<thead>
<tr>
<th>Outcome</th>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Neutral</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>have improved access to health information</td>
<td>33%</td>
<td>47%</td>
<td>13%</td>
<td>7%</td>
<td></td>
</tr>
<tr>
<td>have improved knowledge of treatment options in BC</td>
<td>7%</td>
<td>53%</td>
<td>20%</td>
<td>13%</td>
<td>7%</td>
</tr>
<tr>
<td>be more able to participate in addressing their health needs</td>
<td>20%</td>
<td>47%</td>
<td>27%</td>
<td>7%</td>
<td></td>
</tr>
<tr>
<td>be more likely to address their health needs</td>
<td>13%</td>
<td>40%</td>
<td>40%</td>
<td>7%</td>
<td></td>
</tr>
</tbody>
</table>

Participants were also asked about outcomes of the CP orientation related to their patients. The majority of participants agreed as a result of their CP orientation, their patients will: have improved access to health information (80%); have improved knowledge of treatment options in BC (60%); be more able to participate in addressing their health needs (67%); and, be more likely to address their health needs (53%).

Learning Areas: Falls Risk Assessment

Participants were provided with a series of questions segmented into learning areas including falls risk assessment; chronic disease monitoring; supporting medication self-management; and health system navigation in both pre and post-surveys. Within each section, they were asked about how beneficial these skills are to the CP role, if they had any previous training, and their level of prior knowledge. The following outlines the results of the pre-survey compared to their post-survey assessment results, where applicable.

Figure 7. How beneficial to the CP role are skills and knowledge in falls risk assessment PRE (n=15)
Participants were asked about the benefit of skills and knowledge to the CP role in the pre-survey. All participants (100%) agreed the skills were beneficial to the CP role.

**Figure 8. Do you have any previous training in falls risk assessment? PRE (n=15)**

When asked if they had any previous training in falls risk assessment, the majority of participants (93%) noted they did not.

**Figure 9. Please rate how beneficial was your practice experience/job shadowing to your learning in this area? POST (n=15)**

In the post-survey, participants were asked how beneficial the practice experience/job shadowing was to their learning in falls risk assessment. The majority of participants (57%) noted it was beneficial.
Participants were also asked in the post-survey how beneficial it is to a CP to have falls risk assessment knowledge and skills. The majority of participants (78%) noted it was beneficial to the role.
Participants on the pre and post-surveys were asked to rate their level of knowledge, skill and confidence in falls risk assessment to assess learning outcomes. Participants rated their proficiency on a 10-point scale, which has been translated to limited (1-3 numerical ratings), moderate (4-7 numerical ratings) and expert (8-10 numerical ratings). These ratings persist for the learning outcomes component of the surveys. In the pre-survey, the majority of participants noted they had limited knowledge, skills and confidence in falls risk assessment. In the post-survey, the majority of participants noted they had moderate or expert levels of knowledge, skills and confidence in falls risk assessment. For example, for skills in falls risk assessment, in the pre-survey, 61% noted limited skills and 40% noted moderate skills. In the post-survey, 7% noted limited skills, 64% noted moderate skills and 29% noted expert skills.

Learning Areas: Chronic Disease Monitoring

Participants were asked a series of questions in the pre and post-surveys about the learning area of chronic disease monitoring. The following outlines the results of the pre-survey compared to their post-survey assessment results, where applicable.

Figure 12. How beneficial to the CP role are skills and knowledge in chronic disease monitoring PRE (n=15)

Participants were asked about the benefit of skills and knowledge to the CP role in the pre-survey. All participants (100%) agreed the skills were beneficial to the CP role.
When asked if they had any previous training in chronic disease monitoring, the majority of participants (73%) noted they did not.

In the post-survey, participants were asked how beneficial the practice experience/job shadowing was to their learning. The majority of participants (72%) noted it was beneficial.
Participants were also asked in the post-survey how beneficial it is to a CP to have chronic disease monitoring knowledge and skills. The majority of participants (71%) noted it was beneficial to the role.

Participants were also asked in the post-survey how beneficial it is to a CP to have chronic disease monitoring knowledge and skills. The majority of participants (71%) noted it was beneficial to the role.

Figure 15. Please rate how beneficial is it to a CP to have chronic disease monitoring knowledge and skills? POST (n=15)

![Bar chart showing the percentage of participants who found chronic disease monitoring knowledge and skills beneficial.]

- Very Beneficial: 64%
- Beneficial: 7%
- Neutral: 7%
- Little if any benefit: 14%
- Not at all beneficial: 7%

Figure 16. Please indicate your current level of knowledge, skill and confidence in the “chronic disease monitoring” learning area PREPOST (n=15)

<table>
<thead>
<tr>
<th>Knowledge in falls chronic disease monitoring?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre: 53%</td>
</tr>
<tr>
<td>Post: 64%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Skills in chronic disease monitoring?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre: 54%</td>
</tr>
<tr>
<td>Post: 57%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Confidence using chronic disease monitoring knowledge and skills?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre: 53%</td>
</tr>
<tr>
<td>Post: 57%</td>
</tr>
</tbody>
</table>

Limited (1-3) | Moderate (4-7) | Expert (8-10)
Participants on the pre and post-surveys were asked to rate their level of knowledge, skill and confidence in chronic disease monitoring to assess learning outcomes. Participants rated their proficiency on a 10-point scale, which has been translated to limited (1-3 numerical ratings), moderate (4-7 numerical ratings) and expert (8 – 10 numerical ratings). These ratings persist for the learning outcomes component of the surveys. In the pre-survey, the majority of participants noted they had limited knowledge, skills and confidence in chronic disease monitoring. In the post-survey, the majority of participants noted they had moderate or expert levels of knowledge, skills and confidence in chronic disease monitoring. For example, for skills, in the pre-survey, 54% noted limited skills and 47% noted moderate skills. In the post-survey, 57% noted moderate skills and 43% noted expert skills.

**Learning Areas: Supporting Medication Self-Management**

Participants were asked a series of questions in the pre and post-surveys about the learning area of supporting medication self-management. The following outlines the results of the pre-survey compared to their post-survey assessment results, where applicable.

**Figure 17. How beneficial to the CP role are skills and knowledge in medication monitoring PRE (n=15)**

![Figure 17](image)

Participants were asked about the benefit of skills and knowledge to the CP role in the pre-survey. All participants (100%) agreed the skills were beneficial to the CP role.
When asked if they had any previous training in medication monitoring, the majority of participants (93%) noted they did not.

In the post-survey, participants were asked how beneficial the practice experience/job shadowing was to their learning. The majority of participants (72%) noted it was beneficial.
Participants were also asked in the post-survey how beneficial it is to a CP to have medication monitoring knowledge and skills. The majority of participants (78%) noted it was beneficial to the role.

Figure 20. Please rate how beneficial is it to a CP to have medication monitoring knowledge and skills? POST (n=15)

Figure 21. Please indicate your current level of knowledge, skill and confidence in the “medication monitoring” learning area PREPOST (n=15)
Participants on the pre and post-surveys were asked to rate their level of knowledge, skill and confidence in medication monitoring to assess learning outcomes. Participants rated their proficiency on a 10-point scale, which has been translated to limited (1-3 numerical ratings), moderate (4-7 numerical ratings) and expert (8 – 10 numerical ratings). These ratings persist for the learning outcomes component of the surveys. In the pre-survey, the majority of participants noted they had limited knowledge, skills and confidence in medication monitoring. In the post-survey, all participants noted they had moderate or expert levels of knowledge, skills and confidence in medication monitoring. For example, for skills, in the pre-survey, 60% noted limited skills and 40% noted moderate skills. In the post-survey, 42% noted moderate skills and 57% noted expert skills.

**Learning Areas: Health System Navigation**

Participants were asked a series of questions in the pre and post-surveys about the learning area of health system navigation. The following outlines the results of the pre-survey compared to their post-survey assessment results, where applicable.

**Figure 22. How beneficial to the CP role are skills and knowledge in health system navigation PRE (n=15)**

<table>
<thead>
<tr>
<th>Benefit Level</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very Beneficial</td>
<td>73%</td>
</tr>
<tr>
<td>Beneficial</td>
<td>27%</td>
</tr>
<tr>
<td>Neutral</td>
<td>0%</td>
</tr>
<tr>
<td>Little if any benefit</td>
<td>0%</td>
</tr>
<tr>
<td>Not at all beneficial</td>
<td>0%</td>
</tr>
</tbody>
</table>

Participants were asked about the benefit of skills and knowledge to the CP role in the pre-survey. All participants (100%) agreed the skills were beneficial to the CP role.
When asked if they had any previous training in health system navigation, the majority of participants (87%) noted they did not.

In the post-survey, participants were asked how beneficial the practice experience/job shadowing was to their learning. The majority of participants (65%) noted it was beneficial.
Participants were also asked in the post-survey how beneficial it is to a CP to have health system navigation knowledge and skills. The majority of participants (79%) noted it was beneficial to the role.

Figure 26. Please indicate your current level of knowledge, skill and confidence in the “health system navigation” learning area PREPOST (n=15)

Knowledge in health system navigation?
- Pre: 67% Limited, 34% Moderate, 0% Expert
- Post: 78% Limited, 21% Moderate, 0% Expert

Skills in health system navigation?
- Pre: 60% Limited, 40% Moderate, 0% Expert
- Post: 78% Limited, 21% Moderate, 0% Expert

Confidence using health system navigation knowledge and skills?
- Pre: 59% Limited, 40% Moderate, 1% Expert
- Post: 78% Limited, 21% Moderate, 0% Expert
Participants on the pre and post-surveys were asked to rate their level of knowledge, skill and confidence in health system navigation to assess learning outcomes. Participants rated their proficiency on a 10-point scale, which has been translated to limited (1-3 numerical ratings), moderate (4-7 numerical ratings) and expert (8-10 numerical ratings). In the pre-survey, the majority of participants noted they had limited knowledge, skills and confidence in health system navigation. In the post-survey, all participants noted they had moderate or expert levels of knowledge, skills and confidence in health system navigation. For example, for skills, in the pre-survey, 60% noted limited skills and 40% noted moderate skills. In the post-survey, 78% noted moderate skills and 21% noted expert skills.

**Qualitative Data**

Participants were also provided the opportunity to provide qualitative answers to questions about their orientation. Responses were fairly individual and specific. The responses are provided here to inform, but are not to be taken as broad-themed responses to the question without a larger sample size.

**Please describe the most important learning for you in each of the learning areas: Falls Risk Assessment**

Participants were asked to describe the most important learning for them in the falls risk assessment learning area and noted the following:

- More awareness of everything around themselves and patient (x2)
- Practical application and how to implement the tools (x2)
- Evaluating risks and properly assessing the patient (x2)
- Patient strength and ability testing (x1)
- Home safety set-up (x1)
- SAIL (x1)
- Different fall risk assessment tools available (x1)
- Seriousness of falls and prevention tools (x1)

**Please describe the most important learning for you in each of the learning areas: Chronic Disease Management**

Participants were asked to describe the most important learning for them in the chronic disease management learning area and noted the following:

- Understanding the pathophysiology more deeply (x3)
- Obtaining prescriptions ahead of time and medications for diseases (x2)
- Acceptable parameters for weight gain (x1)
- Interaction of diseases (x1)
- Slow progression of the diseases (x1)
- Chronic heart failure (x1)
Please describe the most important learning for you in each of the learning areas: Medication Monitoring

Participants were asked to describe the most important learning for them in the medication monitoring learning area and noted the following:

- More in-depth knowledge on medication and effects (x3)
- Medication issues (x1)
- Learning new drug options (x1)
- Options in medication dispensing (e.g., blister packs) (x1)

Please describe the most important learning for you in each of the learning areas: Health System Navigation

Participants were asked to describe the most important learning for them in the health system navigation learning area and noted the following:

- New resources and where to access them (x7)
- Uniqueness of location in health system navigation (x1)
- Creating relationships with other professionals (x1)
- The need for central intake referrals (x1)

In what ways, if any, has the Community Paramedicine Orientation changed your approach to practice?

Participants were asked in what ways the CP orientation has changed their approach to practice and they noted the following:

- Improvement in listening skills and caring (x2)
- More time to investigate and examine things in depth (x2)
- Preventative medicine (x2)
- Need to advocate for their patients (x1)
- Enhanced knowledge on relational engagement with patients (x1)
- More relaxed in emergency practice (x1)
- Knowing audience (x1)
- Difference between a CP call and a paramedic call (x1)

What are your major suggestions for improving the CP Orientation components: online component

Participants were asked their major suggestions for improving various components of the CP orientation. When asked about the online component, participants noted the following suggestions:

- Blackboard was tricky to use (x2)
- More time to complete the program would be beneficial (x2)
- Offer a FB page for students to connect (x1)
- More interactive (x1)
- Difficult to do group projects online (x1)
■ There was a lot of reading (x1)
■ Some of the links provided did not work (x1)

**What are your major suggestions for improving the CP Orientation components: face-to-face component**

Participants were asked their major suggestions for improving various components of the CP orientation. When asked about the face-to-face component, participants noted the following suggestions:

■ More face-to-face component (x3)
■ More time to practice skills or role playing (x1)
■ Practice fall risk assessment in skids (x1)

**What are your major suggestions for improving the CP Orientation components: webinar component**

Participants were asked their major suggestions for improving various components of the CP orientation. When asked about the webinar component, participants noted the following suggestions:

■ They were quite dry in content (x2)
■ More guidance from instructors (x1)

**What are your major suggestions for improving the CP Orientation components: content**

Participants were asked their major suggestions for improving various components of the CP orientation. When asked about the content, participants noted the following suggestions:

■ More diabetes education (x1)
■ The order of the course needs improvement (x1)
■ Too much information for the time allotted (x1)
■ Less time on cultural sensitivity (x1)
■ More time spent on pathophysiology (x1);
■ More pharmacology (x1)

**What are your major suggestions for improving the CP Orientation components: materials**

Participants were asked their major suggestions for improving various components of the CP orientation. When asked about the materials, participants noted the following suggestions:

■ Printed copies should be available (x1)
■ Have a reference book (x1)
■ Ongoing access to resources (x1)
■ Pharmacology books with reliable information (x1)
What are your major suggestions for improving the CP Orientation components: process

Participants were asked their major suggestions for improving various components of the CP orientation. When asked about the process, participants noted the following suggestions:

- Start probation after completion of orientation (x1)
- Ensure participants are on the same time schedule (x1)

Please add any other comments or suggestions

Participants were asked if they had any other comments or suggestions and noted the following:

- Completing the course on flex time was challenging (x1)
- Positive accolades for the course (x1)
- More face-to-face training (x1)
- Would be nice to have had access to materials from other cohorts (x1)
2. CP Experience Data Summary

Background

The CP Experience Survey was designed as a census survey for the purpose of collecting data from the CPs on their experience of providing community paramedicine in their local community. There are two key goals that shaped this data collection tool: 1) understanding the CP’s experience in delivering CP services; and, 2) improving the program by accessing CP feedback on the program’s progress in their community. The survey tracks seven key components using 55 questions:

1. Recruitment & Selection
2. Professional Development & Team Learning
3. Design & Delivery
4. Collaboration & Continuity of Care
5. Patient Work
6. Community Engagement
7. Job Satisfaction

What follows is Wave 1 data for the purposes of facilitating any project implementation transitions to ensure contribution to stated outcomes. Wave 2 data will be collected near the end of the project cycle and will show progress made towards outcomes.

CP Experience Survey Results

The following represents the data from Wave 1 of the CP Experience Survey (Wave 2 data will be collected for the summative report). N=28 respondents completed the survey, making the response rate 100%. However, not every respondent answered all the questions. Therefore the individual responses are identified for every figure as n=X. Data is reported by strongly agree/ agree responses in aggregate. For qualitative comments, only those themes that emerged from two or more individuals are included in the report to maintain anonymity and the integrity of the data.

Section 1: Recruitment & Selection

Survey participants were asked a series of questions on the recruitment and selection process. The majority agreed the recruitment process was well organized (75%); the selection process was well organized (70%); throughout the recruitment and selection processes their questions and concerns about the role were addressed (71%); and they understood the role and expectation for the position before they accepted the position (54%).
Participants were asked if they had relocated for the position. Most had not (75%), but 25% had and were asked if the relocation process was clear.

Participants noted they agreed (43%) there was clarity around the relocation process, 29% were neutral and 29% disagreed.
Figure 3. Has your shift availability as a paramedic changed or stayed the same since you became a CP? (n=28)

Participants were asked to indicate if their shift availability as a paramedic has changed or stayed the same since they became a CP. Most participants (64%) noted they were less available than before. Twenty-one percent noted their availability had stayed the same and 14% were more available.

Section 2: Professional Development & Team Learning

Survey participants were asked a series of questions regarding professional development and team learning. The majority of participants noted they participate in professional development opportunities when they are offered (100%); on the job they continue to increase in competence as a CP (93%); they are learning about the health needs in their community (100%); they receive the supervision they need from their unit chief to be successful as a CP (52%); and they receive the practice support they need from their RTO to be successful as a CP (61%). Less than half of participants noted that their regional CP team met, on a regular basis, to share experiences and discuss ways to improve (47%).
Figure 4. Questions about professional development & team learning (n=28)

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>I participate in professional development opportunities when they are offered</td>
<td>21%</td>
<td>79%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>On the job I continue to increase in competence as a CP</td>
<td>4%</td>
<td>4%</td>
<td>26%</td>
<td>67%</td>
<td></td>
</tr>
<tr>
<td>I am learning about the health needs in my community</td>
<td>29%</td>
<td>71%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I receive the supervision I need from my Unit Chief to be successful as a CP</td>
<td>22%</td>
<td>26%</td>
<td>22%</td>
<td>30%</td>
<td></td>
</tr>
<tr>
<td>I receive the practice support I need from my RTO to be successful as a CP</td>
<td>7%</td>
<td>14%</td>
<td>18%</td>
<td>32%</td>
<td>29%</td>
</tr>
<tr>
<td>On a regular basis, my regional CP team meets (in person, online, etc.) to share experiences and discuss ways to improve</td>
<td>18%</td>
<td>21%</td>
<td>14%</td>
<td>29%</td>
<td>18%</td>
</tr>
</tbody>
</table>

Please provide additional comments on your experience with Professional Development

Participants were asked to provide additional comments on their experience with professional development and offered the following responses, which have been themed into broader categories:

- RTOs were helpful but very busy and unable to provide timely feedback or check in procedures, an expanded role with more regular check-ins would be helpful (x8)
- More education provided on a regular basis (x3)
- More peer supports needed (x2);
- Participation in all opportunities presented (x2)

Section 3: Design & Delivery

Survey participants were asked questions about the design and delivery of the CP program. The majority of participants noted they understood their role and scope of work as a CP (95%); they are clear on the types of patients they should serve (91%); they have the supplies and equipment they need to deliver services as a CP (70%); and, they experience successes in delivering services as a CP (83%).
Participants were asked to comment and explain if they were not clear on the roles, scope of work or patients CP serves and provided the following comments:

- Not every client referral meets the criteria, criteria constantly changing (x5).

Did you experience barriers/constraints in delivering services as a CP?

Participants were asked if they experienced barriers/constraints in delivering services as a CP. Fifty-seven percent indicated they had, and 43% indicated they had not. For those that had, they were asked to provide comments and specified the following barriers:

- Lack of trust in Indigenous communities, seniors, amongst health professional staff (x2)
- Not trained in health and socioeconomic topics they are asked to discuss (x2)

Please describe successes.

Participants were asked if they had experienced successes in delivering services as a CP. Eighty-three percent noted they had experienced success and were asked to describe the successes they had seen. Participants noted the following:

- Patient improvement (x8)
- Reduced ER visits (x5)
- Clients more comfortable at home (x4)
- Slowed progression of disease (x3)
Section 4: Collaboration & Continuity of Care

Survey participants were asked some questions about collaboration and continuity of care. The majority of participants agreed they understand the role of the other health care professionals with whom they work (87%); they are developing good, collaborative relations with other organizations and care professionals they work with on a regular basis (87%); they are sharing patient information in a timely way with other health care professionals (78%); and, the care providers outside of their organization incorporate their care plan recommendations into the care of their patients (72%). Few participants agreed that the referral procedures they use are streamlined (18%).

Please provide additional comments on your experience in collaboration & continuity of care.

Participants were asked to provide additional comments on their experience in collaboration and continuity of care and provided the following:

- Sharing information with other health professionals can be problematic and is not streamlined – there should be a process (x4)
- Great working relationships with local clinics and health professionals (x3)
Section 5: Patient Work

Survey participants were asked questions about their patient work. The vast majority of participants agreed: they know who to contact to support the health of each patient (78%); they interact skillfully with Indigenous and other populations (82%); they support patients in navigating the health care system (91%); they support patients in accessing primary care services (96%); they review the plan of care with patients upon arrival (83%); they support their patients in medication self-management (100%); they support their patients by providing health information (100%); and, they support their patients in avoiding unplanned acute care visits (915).

Figure 7. Questions about patient work (n=28)

<table>
<thead>
<tr>
<th>Question</th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>I know who to contact to support the health of each patient</td>
<td>22%</td>
<td>35%</td>
<td>43%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I interact skillfully with Indigenous and other populations where cultural sensitivity is key</td>
<td>9%</td>
<td>50%</td>
<td>32%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I support patients in navigating the health care system</td>
<td>9%</td>
<td>32%</td>
<td>59%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I support patients in accessing primary care services</td>
<td>5%</td>
<td>41%</td>
<td>55%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I review the plan of care with patients upon arrival</td>
<td>41%</td>
<td>49%</td>
<td>5%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I support my patients in medication self-management</td>
<td>41%</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I support my patients by providing health information for supporting their health</td>
<td>22%</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I support my patients in avoiding unplanned acute care visits (EHS, ED visits)</td>
<td>9%</td>
<td>23%</td>
<td>68%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

I am working with the identified populations as part of my patient workload (e.g., diabetes, COPD and heart failure).

Participants were asked to indicate if they are working with the identified populations as part of their workload. Most participants (91%) noted they were, and 9% noted they were not.
Please describe a challenging situation where you were successful working with a patient (or would be in a future situation).

Participants were asked to describe a challenging situation where they were successful working with a patient (or would be in a future situation). Participants provided a range of comments that were very individual, but were focused on the themes of direct patient work, engaging in difficult conversations, overcoming barriers, and improving overall health.

Please provide additional comments on your experience on supporting patients to avoid unplanned acute health visits.

Participants were asked to provide comments on supporting patients to avoid unplanned acute health visits. Participants provided the following comments:

- Educating patients on their conditions for better health management (x5)
- Education on diseases and how medications help contributes to positive outcomes (x3)
- Finding medications they should not be taking or reminding patients to refill prescriptions (x3)
- Symptom management and awareness of issues requiring intervention (x2)

Please provide additional comments on your experience in providing care to your patients/clients.

Participants were asked to provide additional comments on their experience of providing care to their clients. Participants provided individual comments related to their experience that could not be themed.

Section 6: Community Engagement

Survey participants were asked questions about community engagement. The majority of participants agreed they actively promote CP services in their community (96%); they promote the use of primary health care in the community (100%); their program fits the needs of their local community (69%); community awareness and understanding of the CP program and services has increased (82%); and, the community is responding positively to the CP program (96%).
The majority of participants noted they participate in the promotion of health living in collaboration with the community (74%) and they contribute to health education sessions in their community (78%).
Please provide additional comments on services you provide to increase community awareness and understanding of health information.

Participants were asked to provide additional comments on services they provide to increase community awareness and understanding of health information. Participants provided the following responses:

- Tables at health fairs and wellness clinics (x6)
- Talks to local community groups (e.g., seniors groups) (x4)
- Health education training for groups (x3)

Please provide additional comments on your perceptions of local community engagement.

Participants were asked to note their comments and perceptions on local community engagement. Participants provided the following comments:

- The community is on board and supportive, they feel well received (x6)
- They have been seen driving the CP car and engage community members in conversation (x2)
- The community needs further education about the program (x2)

Section 7: Job Satisfaction

Participants were asked questions about job satisfaction and the majority agreed they are able to visit patients as recommended by the referring provider (95%); they have been able to pick up additional kilo shifts (80%); and they plan to continue in this role for the next 12 months (81%).

Figure 10. Questions about job satisfaction (n=28)

<table>
<thead>
<tr>
<th>Question</th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>I am able to visit patients as recommended by the referring provider</td>
<td>5%</td>
<td>27%</td>
<td>68%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I have been able to pickup additional KILO shifts</td>
<td>5% 5% 10%</td>
<td>40%</td>
<td>40%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I plan to continue in this role for the next 12 months</td>
<td>10% 10% 10%</td>
<td>71%</td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

Please provide additional comments on why or why not you could/couldn't pick up additional shifts.

Participants were asked about why they could or could not pick up additional shifts (80% agreed they had been able to pick up extra shifts, 10% had not). Participants provided the following comments on why they could not or were not as able to pick up shifts:
• Child care, work-life balance (x4)
• Cannot work shifts before, between or after CP shifts as it would cause a time-out situation (x2)

Participants provided the following comments on why they could take on additional shifts:

• Picked up extra shifts to maintain patient continuity (x2).

**Figure 11. Questions about job satisfaction (n=28)**

<table>
<thead>
<tr>
<th>Question</th>
<th>Yes (%)</th>
<th>No (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>I am satisfied with my job as CP</td>
<td>95%</td>
<td>5%</td>
</tr>
<tr>
<td>The CP is a valuable contribution to health service delivery and emergency response services in my community</td>
<td>95%</td>
<td>5%</td>
</tr>
</tbody>
</table>

The large majority of participants indicated they were satisfied with their job as a CP (95%) and that the CP role is a valuable contribution to health service delivery and emergency response service in their community (95%).

**Please provide additional comments on your overall satisfaction with your job.**

Participants provided additional comments on their job satisfaction and noted the following:

- They are satisfied they can provide assistance to the patients and the community as it makes a difference (x9)
- Technology issues are a problem (x2)
- They enjoy the role and are excited for additional training (x2);
- They require more training (x2)

**Please comment on any unintended impacts that affected your job satisfaction.**

Participants provided comments on unintended impacts that have affected their job satisfaction and noted the following:

- Patient death is harder because of the relationships built (x5)
- Lack of buy-in from local health centre or other integrated health staff (x2)
- Lack of flexibility (x2)
3. EQ 5D Data Summary

Background

After the Community Paramedicine Initiative evaluation framework was approved by the Evaluation Advisory Committee in February 2015, the evaluation team investigated three potential patient-reported outcome measures (PROMs) instruments that could work in a home-based setting. The purpose of this instrument would be to capture patients’ self-report health perceptions with regard to their daily life activities to provide insight into one of the Quadruple Aims informing patient experience. Because the Province of BC did not have a recommended PROM at the time of the selection (summer 2016) a variety of surveys were investigated by Catalyst.

Three health quality of life survey tools were considered including: the Short Form™ (SF) 8 tool, the Veterans Rand® (VR) 12 and the Euro Qual (EQ) 5DL tool.

When making the selection of the PROM, several considerations were discussed.

- The CP would be asked to administer the tool to the patient as part of the home visit
- The CP would have to feel comfortable speaking about the survey and inviting a client to participate
- CPs would be caring for clients whose health might become further compromised and potentially approach end-of-life. Such developments may impact whether they would be well enough to complete a follow-up survey.

Representatives from the Canadian Institute for Health Information (CIHI) were consulted to provide advice in late spring 2016. A BCEHS unit chief serving in a Northern Health community was also consulted to review the EQ 5D (final choice) and obtain feedback on both the survey tool and how best to implement it within the work flow of CPs.

Catalyst and the program’s Senior Business Analyst worked jointly to arrive at a decision to move forward with the EQ 5D tool mainly due to its brevity (five questions), the intuitive nature of the questions, and its current implementation in primary care projects including the CP evaluation study in Minnesota, USA.

The EAC approved the decision to incorporate the EQ 5D survey into the evaluation design at its meeting in September 2016.

Methods

Training sessions took place with CPs working in 10 selected communities in January 2017 and the implementation of the tool in these communities began in February.

CPs were able to determine whether to administer the first survey during their first or second visit. The second survey was administered at least six weeks after the initial administration.

31 Does the survey seem to get at what might be important for a CP to know about a patient as it pertains to their daily lives beyond clinical measures? Would a patient understand why a CP might want to know this about them?
EQ 5D Results

As of September 2017, the project team shared with Catalyst a data file with 15 matched scores. The results are presented below.

Figure 1. PrePost EQ5 DL comparison by dimension (n=15)

Key messages (overall):

- Upon intake, CP patients reported, on average, severe or extreme problems (24%) completing “usual activities” (work, housework, family or leisure activities) as well as anxiety/depression (25%).

- At the second survey administration, usual activities and pain/discomfort continued to cause severe/extreme problems (18%) whereas anxiety was lessened.
- There was a slight improvement in the visual analogue score (VAS) - (pre = 66; post (matched pairs only) = 69).

**Figure 2. PrePost EQ5 DL comparison on health status change (n=15)**

![Bar chart showing prepost EQ5 DL comparison on health status change (n=15)]

<table>
<thead>
<tr>
<th></th>
<th>Worsen (n=4)</th>
<th>Maintained (n=2)</th>
<th>Mixed (n=2)</th>
<th>Improved (n=7)</th>
</tr>
</thead>
<tbody>
<tr>
<td>%</td>
<td>27%</td>
<td>13%</td>
<td>13%</td>
<td>47%</td>
</tr>
</tbody>
</table>

**Key findings (overall)**

- When looking at the change in scores within the same individual, 47% of patients experienced some improvement across the measures.

- Slightly more than quarter of patients (27%) indicated that their health status worsened.

Caution is certainly encouraged due to the small sample size. It is not possible to do further analytics because of this; however, when the sample size is increased, more meaningful results can be explored.

**Missing data**

More “pre” (T1) administrations were completed than “post” (T2). Anecdotally, there were a number of reasons for this “lost” data:

- Some patients died
- Some patients refused to complete a second survey (personal choice)
- Some patients refused CP additional visits to home (personal choice)

When the evaluation results are shared with the CPs, they will be encouraged to continue to survey their patients in order better understand the relationship of CP services to patient reported health outcomes.
Lessons Learned To Date about Trialing This PROM

It was hoped that during the completion of the survey, CPs might appreciate the “real time” insight into how the patient was getting along in the home. This hope will be explored qualitatively with CPs for the final report. Having this survey work done in a home-based setting is a more challenging way to survey patients compared to a clinic-based application.

The community paramedicine program is to be commended on moving forward in implementing a PROM to capture patient perceptions of their health quality of life. Now that this initial data has been compiled and reported back, it is hoped that the CPs will see how it is used within the evaluation to look at patient outcomes achieved through this new service.

Finally, through this pilot, it was learned that some patients found the survey tool “intrusive“ or “culturally insensitive” and refused to take the survey because of this. The EQ 5D is an international survey tool that has been translated and tested around world in a variety of settings; however, a patient’s participation in this study is voluntary. It is hoped that through completion of this brief survey, patients’ views about their health quality of life can be better understood.
Appendix: Implementation Procedure for EQ-5D-5L Tool

This document is designed as a guidance to Community Paramedics (CPs) on how to administer the EQ-5D-5L assessment tool during home visit with patients.

Introduction to EQ-5D-5L Tool:

The ED-5D-5L survey is an example of a patient reported outcome measure (PRoM) that captures five dimensions of health-related quality of life (HQoL): mobility, self-care, usual activities, pain/discomfort and anxiety/depression. This is often referred to as functional health status.

This survey has been tested to be a valid and reliable tool for use in a variety of settings and is applicable to a wide range of health conditions. It also gives a “voice” to patients as it allows them a way to express their opinions on how they are getting along in their daily lives.

One of community Paramedicine initiative goals is to deliver care consistent with Triple (Quadruple) Aim and this tool supports Triple/Quad Aim Framework. This tool will be used to report on the health outcome aim. By capturing data from a sample of patients that community paramedics visit regularly, we can assess whether patients' health-related quality of life has stabilized or improved over time.

<table>
<thead>
<tr>
<th>Triple Aim³</th>
</tr>
</thead>
<tbody>
<tr>
<td>Triple Aim is a framework developed by the Institute for Healthcare Improvement that describes an approach to optimizing health system performance. It is IHI's belief that new designs must be developed to simultaneously pursue three dimensions, which we call the “Triple Aim”:</td>
</tr>
<tr>
<td>1. Improving the patient experience of care (including quality and satisfaction)</td>
</tr>
<tr>
<td>2. Improving the health of populations</td>
</tr>
<tr>
<td>3. Reducing the per capita cost of health care.</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>What is patient centered care?²</th>
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<tbody>
<tr>
<td>Patient-centered care puts patients at the forefront of their health and care, ensures they retain control over their own choices, helps them make informed decisions and supports a partnership between individuals, families, and health care services providers. Patient-centered care incorporates the following key components:</td>
</tr>
<tr>
<td>1. self-management;</td>
</tr>
<tr>
<td>2. shared and informed decision-making;</td>
</tr>
<tr>
<td>3. an enhanced experience of health care;</td>
</tr>
<tr>
<td>4. improved information and understanding; and,</td>
</tr>
<tr>
<td>5. the advancement of prevention and health promotion activities.</td>
</tr>
</tbody>
</table>

Patients, families and caregivers are partners in health care, supported and encouraged to participate in:
| 1. their own care; |
| 2. decision-making about that care |
| 3. choosing their level of participation in decision-making |
• quality improvement
• health care redesign

Purpose of using this tool:
Individuals spend limited amount of time with health professionals and this survey is designed to provide the health care team an insight into how patients are doing the rest of the time. Responses from this survey will help CPs and the broader Initiative to learn how patients are getting along in their daily lives.

Who will receive this tool?
This survey is designed to be used during home visits only. All new patients who receive home visits from CPs as well as those who have been seen by a CPs 2 or fewer times can participate in taking the survey.

When and how should I share the survey with my patient?
The ideal situation is to administer the survey during the first visit (new patients); prior to starting your regular patient assessment. If a CP sets up regular visits with the same patient, the survey can be administered during the second visit; assuming it is within 2 weeks of the first visit.

Prior to starting your initial patient assessment, ask patients if they are interested to participate in taking this survey. If patient agrees, hand over the survey for completion. Ensure patient’s information on the front page of the questionnaire is filled properly.
If you have the patient complete the survey early in the visit, you can quickly review the responses and have an additional conversation on anything that might appear to be of a concern to the patient.

How to proceed if the patient requires assistance with completing the survey?
If the patient requires assistance with reading or completing the survey, the CP or a family member/friend can assist. In this situation, please read each statement in a neutral way and exactly as written. Ensure you check the “Survey Completed by” section of the questionnaire indicating how the survey was completed.

How many times and how often I need to administer the survey?
It is required to administer the survey at least 2 times with the same patient. CPs are required to wait at least 6 weeks from the date of 1st survey to have the patient complete the survey for the second time. Note: Under special circumstance, you may only be able to administer the survey one time.

Can I administer the survey more than 2 times? If so, how often and for how long?
The survey can be administered more than 2 times. If CPs work with the same patient for a long period of time, follow up survey can be re-taken at 3 and 6 months.

What should I do with my completed surveys?
Once the survey is completed, file the survey with the rest of patient’s chart and place it in a secured double lock area – per your patient record storage protocol.

When to send completed surveys to the project team?
Once you have 2 sets of surveys completed by the same patient, please scan them to advised shared drive.
Note: Under special circumstance, you may only be able to administer the survey one time. Please scan the initial survey to the advised share drive.

Who should I contact if I have any questions about the survey?
Please contact Sherry Ebrahimi at 604-817-0529 or sherry.ebrahimi@bcehs.ca

References:

2. The British Columbia Patient-Centered Care Framework; British Columbia Ministry of Health
Appendix B. Program Data Summary

1. Context
2. Meeting Data
3. Community Paramedicine Services
1. Context

Initiatives take place within contexts or environments that can be neutral, or that enhance or challenge their progress. This past summer of 2017 saw two significant changes to environments in British Columbia that had potential to impact the delivery of the community paramedicine program – the provincial government and natural disaster. The following describes how changes in these two areas played out within the context of program implementation.

**Provincial government changes (2017)**

On July 18, 2017, the Honourable John Horgan, leader of the BC New Democratic Party (NDP) was sworn in as British Columbia’s 36th premier, along with his cabinet, ending 16 years of Liberal rule in BC.

This change in government is not expected to have any impact on the community paramedicine program. The NDP was not critical of the program while sitting as Opposition and, while there is a new health minister, the deputy and associate deputy minister have not changed.

Community paramedicine relates to two of the ministry’s key priorities: improve and strengthen services to ensure seniors receive dignified and quality care; and, invest in more paramedics.

**Wild fires (2017)**

The 2017 wildfire season was the worst in BC history. According to a Canadian Press story published on October 4, 2017, hundreds of wildfires scorched more than 12,000 square kilometers of timber, bush and grassland from April 1st, and forced more than 45,000 people from their homes at the height of the fire season.

Despite the intensity of the wildfire season, only two communities selected for program with active community paramedics were impacted: Alexis Creek and Anahim Lake in the Interior Districts, which were both evacuated and CP services suspended for the duration of the evacuation order.

The Project Team also advised the health authorities that CPs would be in touch with local health authority contacts to check on current CP patients and any new patient referrals due to air quality, evacuations or other health issues related to the fires. These referrals would be considered a priority. Also, policies and procedures were in place to protect all BCEHS paramedics travelling through potential fire zones.

2. Meeting Data

Committees and frequency of meetings:

- **Provincial Advisory Committee**: Facilitates integration of community paramedicine into the health delivery system, a critical component to enabling community paramedics to work in collaboration with local health care providers to bridge any gaps identified in a patient’s health care plan. PAC reports to the PHSA/BCEHS Senior Leadership Committee, and is responsible...
for the activities of the Professional Practice Advisory Committee and the Evaluation Advisory Committee. (Meets quarterly)

- **Professional Practice Advisory Committee**: Provides input, feedback and suggestions with respect to the practical and clinical implementation and integration of community paramedicine into the health care system. (Meets on an as-required basis)

- **Evaluation Advisory Committee**: Ensures the evaluation framework and corresponding data-related efforts are designed to answer the high-level questions identified. (Meets on an as-required basis)

- **Regional Steering Committees**: Established in each of the regional health authorities with the mandate of implementing the community paramedicine program within the local communities. (Meet on an as-required basis)

- **Community of Practice Meetings (CoP)**: Established in each BCEHS region and is a space in which CPs, who may never come into contact otherwise, regularly connect with each other, and provides a shared context for people to communicate and share information. It is a way to enable dialogue between people who have an interest in solving the same or similar problems, and stimulate learning by serving as a vehicle for communication, mentoring, coaching, or self-reflection. It's considered a place to introduce collaborative processes and encourage the free flow of ideas and information; and generate new knowledge. (Once a month or as needed)

- **Union Meetings**: To discuss community paramedicine. (Once a month)

- **Regional Training Officers Meetings**: Monthly teleconferences, with bi-annual face-to-face meetings, with all RTOs, BCEHS Learning, and project staff to share information around standard practice, education, trends, and quality assurance. This meeting is used as a method to connect the RTOs so they can obtain the same messaging on education and program updates, relay any concerns, and share ideas for process improvements.
<table>
<thead>
<tr>
<th>Description</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Community – Participation</strong></td>
<td>• Attending health authority rounds</td>
</tr>
<tr>
<td>Participating in a community event where the CP is not providing services, during which community paramedicine is gaining exposure by the presence of the CP attending the event.</td>
<td>• Attending regional/local community events (e.g., parade, ceremony)</td>
</tr>
<tr>
<td></td>
<td>• Attending a First Nations potlatch</td>
</tr>
<tr>
<td><strong>Community – Presentation Delivery</strong></td>
<td>• School presentation on 911 use</td>
</tr>
<tr>
<td>Delivering a presentation to the community regarding non-clinical education.</td>
<td>• Sports club presentation</td>
</tr>
<tr>
<td><strong>Community – CP Services Promotion</strong></td>
<td>• Presentations at local town council meeting on CP services</td>
</tr>
<tr>
<td>• Actively promoting CP services and looking for ways to collaborate with other community groups.</td>
<td>• Meeting with First Nations’ leadership, including elders</td>
</tr>
<tr>
<td>• Collaborating with the local health authority teams to identify potential patients</td>
<td>• Engaging in health authority meetings to determine CP opportunities</td>
</tr>
<tr>
<td>• Attending local health team meetings to provide updates/outcomes of CP services delivered</td>
<td>• Attending discharge planning meetings</td>
</tr>
<tr>
<td><strong>Community – Clinical Education Delivery</strong></td>
<td>• CPR &amp; AED instruction</td>
</tr>
<tr>
<td>Provide clinical education to the community.</td>
<td>• O₂ monitoring</td>
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<tr>
<td></td>
<td>• Peak Flow Meter use</td>
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<tr>
<td></td>
<td>• MDI use</td>
</tr>
<tr>
<td><strong>Community – Clinical Assessment (Group)</strong></td>
<td>• Diabetes clinics</td>
</tr>
<tr>
<td>Participate in pre-existing community clinics, wellness events and group medical check-ins to provide clinical support.</td>
<td>• Healthy heart clinics</td>
</tr>
<tr>
<td></td>
<td>• Smoking cessation</td>
</tr>
<tr>
<td></td>
<td>• Local health fair (e.g., taking blood pressures, etc.)</td>
</tr>
<tr>
<td><strong>Patient Home Visit – CP Services</strong></td>
<td>• Wellness check</td>
</tr>
<tr>
<td>Provide wellness checks to previously identified patients who would benefit from home visits, or provide education to patients/patients’ family in their home.</td>
<td>• Vitals check</td>
</tr>
<tr>
<td></td>
<td>• Personal AED/CPR instruction</td>
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<tr>
<td></td>
<td>• Falls risk assessment</td>
</tr>
<tr>
<td></td>
<td>• CPAP use and maintenance</td>
</tr>
</tbody>
</table>
3. Community Paramedicine Services

Delivering Presentations & Education – more examples:
1. Partner with existing community programs
   - CPR / AED class
   - O2 Monitoring
   - ACT (mental health)
   - PARTY (alcohol/drugs + youth)
   - Hand-washing / infection controls
   - Car seat clinics

2. Seniors groups
   - Value of immunizations
   - Living well with chronic diseases

3. 911 & 811 use

Supporting Group Assessments & Education – more examples:
- Diabetes, blood pressure, Healthy Heart clinics
- Falls risk assessments
- Living well with COPD / diabetes / heart failure
- Healthy lifestyles
- Wellness events

Wellness Checks (in the patient’s home) – more examples:
- Patient Home Safety Assessment
- Falls Risk Assessments
  - Chronic disease follow-up: heart failure, diabetes, COPD
  - Cardiovascular monitoring
  - Oxygen and inhaled respiratory device equipment assistance
  - Vitals and weight checks
  - Physical, pain, and neuro assessments
  - Education
- Supporting medication self-management
- Support health system navigation
- Provide Home Health Monitoring (HHM) service
Appendix C. Key Informant Interview Summary

High-level themes from interviews (n=8), organized by question

Note: If number is reported (#x) at end of theme, this indicates that it wasn’t a consistent theme captured in the majority of interviews; however, it has been documented for consideration moving forward.

Q1. Please explain your role/involvement in the initiative since its inception.

- Interviewed mix of project team (based in Lower Mainland) and those working in community (north, interior and Vancouver Island)
- Staffing stable during period of implementation
- Familiarity with the program since inception (due to stable staffing)
- Seasoned professionals advancing this work
- Mix of skills
- Mix of areas covered within implementation (strategy, operations, project management, “doers” and “feet on the ground” to sell new role to communities)

Q2 To what extent has CP been implemented as planned? Facilitators?

Yes – implemented as planned (consistent reply)

Facilitators included:

- **Supportive leadership** (BCEHS) to advance this work
- **Prototypes** provided opportunity to learn (e.g., plan, do, study, act before next round), start small and grow big
- **Planned reflection/QI** built into everything
- **Positive and encouraging** environment (we can do this!)
- Hiring the right “personality” into the community paramedic role (What type? “go getter”, liaison with local health care teams, relationship builder, continually needing to introduce themselves (and new role for profession) in early days)
- Communicating that this **wasn’t a pilot**; instead, there was the understanding that this would be brought into operations
- Our **union colleagues** could talk to other unions (i.e., nurses) to assist (3x)
- **Previous experience** with CPs working in other provinces (2x)

Q2 To what extent has CP been implemented as planned? Barriers?

Barriers to overcome:

- Amount of time it took to raise awareness in communities (e.g., community introductions took time (**lots of questions**)! especially due to the expanse/remoteness of BC
- Finding the **right** CP for the position as this individual would be key to advancing the work locally
- Concerns about CPs **taking others’ jobs**
- **Creating ways to document/communicate** across different information systems (BCEHS and local health care teams, including physicians)
- **Narrowness of current scope of practice** (as there is more work to do)
Q2 To what extent has CP been implemented as planned? What could have been done differently?

- Draw in the unit chiefs earlier to better support CPs in new role (3x)
- Put more focus upfront on data input (charting)/quality in early days as this is a major difference in working CP role (e.g., need to communication with the local health care team via documentation) (2x)
- Recognize that there are still some service gaps that exist in rural/remote communities that CPs won’t be able to fill (2x)
- Putting focus on certain patient segments (COPD, diabetes, etc.) is limiting work in some communities (younger, healthier) (2x)

Q3. To what extent do the community partners (e.g., allied health professionals, physicians) know about the new rural community paramedicine services?

- Key to engagement was seeking out perceived “gaps” of current situation at coalface and how CPs could fill those gaps
- Patience and time required to build trust (similar to other situations where new health care team members are brought into teams within primary/community care settings)
- 1:1 conversations/meetings necessary to initially gain attention/interest in this new role
- Health authorities a key partner to help with the introductions within local communities (4x)
- Some hesitation to work with CPs (will they take my job?) (4x)
- New position within BCEHS and as such, necessary to explain many times what CP can do. What is their training? How is it like my training (i.e., RN) and how does it differ?) (2x)
- Town hall meetings with project team helped (to get broader community on board) (2x)

Q4. To what extent are program processes efficient (e.g., governance, project management)? Are the operations integrated? Are there downtimes or duplication of efforts?

- Governance structure working, especially as it pertains to integrating this work/service into health authority structures and addressing problems that emerge
- Having Privacy Impact Assessments (PIAs) essential (created structure to work together)
- Faxes required (taken out, brought back in) as it is the only way to share records of case
- Work in progress to fully integrate the CP role within the current BCEHS reporting structure (overseen by unit chiefs)
- Downtimes related to the number of patient referrals (if their communities are generally healthier, then the CP spends more time in the community doing group work) (2x)
- Mixed opinions on right FTE allocation in communities (e.g., part-time vs. full-time positions). Is it better to have CPs in more communities; however, in some communities they probably need MORE time (closer to a FTE) to be impactful and in other communities, need is less. (2x)
Q5. To what extent has the orientation program been relevant to the work of the CPs? Please explain why or why not?

- Generally good/positive (5x, not all felt in position to answer this question)
- Justice Institute seen as good partner (4x)

Future improvements might be:

- More training on end of life patients, palliative (4x)
- Focus on emotional needs of CPs (and supports available to all paramedics) as many are caring for patients in the “end of life” stage (4x)
- Pharmacotherapy (2x)
- Handling this work in a small community (where patients may know them, call them off hours) (2x)

Q6. To what extent are the right supports in place to contribute to the following longer term outcomes:

a. Help to attract and retain community paramedics?

- Mixed opinions on this (yes that it is attractive position and others say “too early to know”)
- Attractiveness/retainment has considerations from both an employer and employee standpoint (e.g., right person for job, right job for a person)
- Concern that “attractiveness” of this position in some eyes (due to its living wage salary considerations) is reducing number of drivers available to pick up kilo shifts (5x)
- Most CPs will seek other work to supplement CP income, sometimes from fields outside of health (2x)

Q6. To what extent are the right supports in place to contribute to the following longer term outcomes:

b. Improve collaboration/integration of partners and stakeholders.

- Work in progress (still new position)
- Required work to communicate with local health care team (fax, recording keeping)
- Meeting community need
- Need to continually look at balance of adequate #/too many referrals? Is a PT position adequate? (4x)
- Two different levels of role (local level, where CPs working with health care teams; systems level, where BCEHS working with health authorities, physicians in new way) (2x)
Q6. To what extent are the right supports in place to contribute to the following longer term outcomes:

c. Bridging service delivery gaps.

- Service delivery gaps being met in most cases (4x)
- Not sure yet (4x)
- Anecdotally evidence that 911 calls are dropping, especially from “familiar faces” (2x)
- Fewer “familiar faces” going to EDs (as per hospitals) (2x)
- Seeing patients not previously seen on regular basis (sometimes a new person can “reach” a patient that the local team hasn’t been able to work with well due to past relationship challenges, opens up another choice) (2x)

Q6. To what extent are the right supports in place to contribute to the following longer term outcomes:

d. Improve patient’s/client’s health care experiences.

- Position provides a way for patients to remain/stay in homes
- Supports the ability of rural/remote residents to remain in community, even if they are experiencing personal health concerns
- Gratefulness of patients for service
- Anecdotal reports positive
- Fewer 911 calls (for some that had previously were recognized as “frequent” callers) (2x)

Question #7 – learnings captured in questions posed in question 6, particularly in a.

Q8. Has the program created any unintended outcomes? If so, what are they?

Unintended/surprising positive outcomes

- Staff very interested to learn about this new opportunity (attractiveness)
- Improved communication & collaboration between hospital staff and paramedics (beyond ED door)
- Having CPs involved in the “hospital to home” transition (discharge planning) has increased opportunities to actively participate in care planning discussions (no longer seen as just “transport”) (3x)
- Increased work with First Nations (limited opportunities in past for paramedics)(3x)

Unexpected/ negative outcomes:

- Decreased coverage/interest for transport/kilo shifts (4x)
- Toll of palliative care on CPs (3x)
- Increasing “routine-ness” of loss of patients due to acuteness of health state (3x)

Q9. At this point, what are the lessons learned about the community paramedicine model? What are its strengths and weaknesses? How does it compare with other rural community paramedicine initiatives you might know about?

Lessons learned include:

- Having prototype communities were great ways to generate knowledge about what was working and what needed to be tweaked
- Centralized roles (strategy, project management, operations) assisted in the rollout and ensured required decisions got made in a timely way
Q10. What other comments or suggestions would you like to offer regarding the community paramedicine service and/or its improvement?

- Most said nothing more to add.
- Overall very proud of what has been accomplished (4x)
- Vehicles considerations moving forward as some are code 3 vehicles. Should all vehicles be able to respond to a major event (lights & siren)? (1x)

Strengths:

- Met milestones in terms of provincial rollout
- Right personality plus skills = CP (must be selective)
- Built in QI and evaluation work from the start (3x)
- Strong project team guiding work (3x)

Challenges to consider moving forward:

- Part-time/full-time FTE - what is the right mix?
- Potential preference for CP shifts rather than transport shifts. What are staffing implications?
- Once CPs are brought into the locally based health care team, challenging when they do go on holiday (no one is there to replace them) (3x)
- Advanced Care Paramedic discussion (tension – if required, whether it would further reduce the # applying for CP position?; however, it can increase what a CP can do) (2x)