



**BC PATIENT SAFETY  
& QUALITY COUNCIL**

Working Together. Accelerating Improvement.



# **SUMMER STUDENT INTERNSHIP PROGRAM**

*2019 Evaluation*

# EXECUTIVE SUMMARY

Over its eight years, the BC Patient Safety & Quality Council's Summer Student Internship Program has supported 76 students to join multidisciplinary improvement teams within the provincial health system. The goals of the program are to expand the students' knowledge of quality, provide valuable work experience and support the improvement of health care.

In 2019, we received 44 project proposals, from which we were able to identify 10 projects representing all regions of BC, including rural, remote and urban communities. Projects represented many areas of the BC Health Quality Matrix and impacted diverse patient populations, including Indigenous peoples, those recovering from stroke, seniors and patients receiving acute services in hospitals. From here, we selected 10 students from a pool of 262 applicants. Each organization also assigned a project lead who would work with and supervise the intern for the duration of the project.

To kick off the internships the ten student interns were invited to attend a Student Education Day in Vancouver that introduced the fundamentals for improving care. We also invited students who were interviewed, but not selected as interns to attend. Of the 13 students, 100% agreed or strongly agreed that they could apply what they learned to future work. Highlights included the highly interactive structure of the day, applied learning activities and the ability to link QI concepts and techniques to their own projects.

From early June to the end of August, interns were compensated for up to 225 hours to support one of the 10 projects selected. Interns met bi-weekly with mentors from the council to provide guidance and support about quality improvement methods and tools as appropriate.

In the follow-up survey (n=10) all interns felt that the program was a valuable use of their time, and that they would recommend the program to other students. They also unanimously agreed that they would be interested in working with the organization that led their project in the future.

Furthermore, all interns agreed the internship was a valuable and meaningful learning experience, while 90% of respondents indicated they developed knowledge and skills that helped them make changes within a complex system, 80% felt their role was clearly defined, and 90% felt well-supported by the project lead and the Council.

The project leads also completed a follow-up survey. All of the respondents (n=5) indicated that they would recommend the BCPSQC Internship program to another project team in the future. They also indicated that they would refer their student intern to an appropriate position within their organization if the opportunity arises in the future.

Students indicated that areas for improvement in the future include ensuring the project is scoped so it is achievable in the internship timeframe, setting realistic expectations about roles and responsibilities up front, and creating additional opportunities for peer-to-peer learning throughout the program.

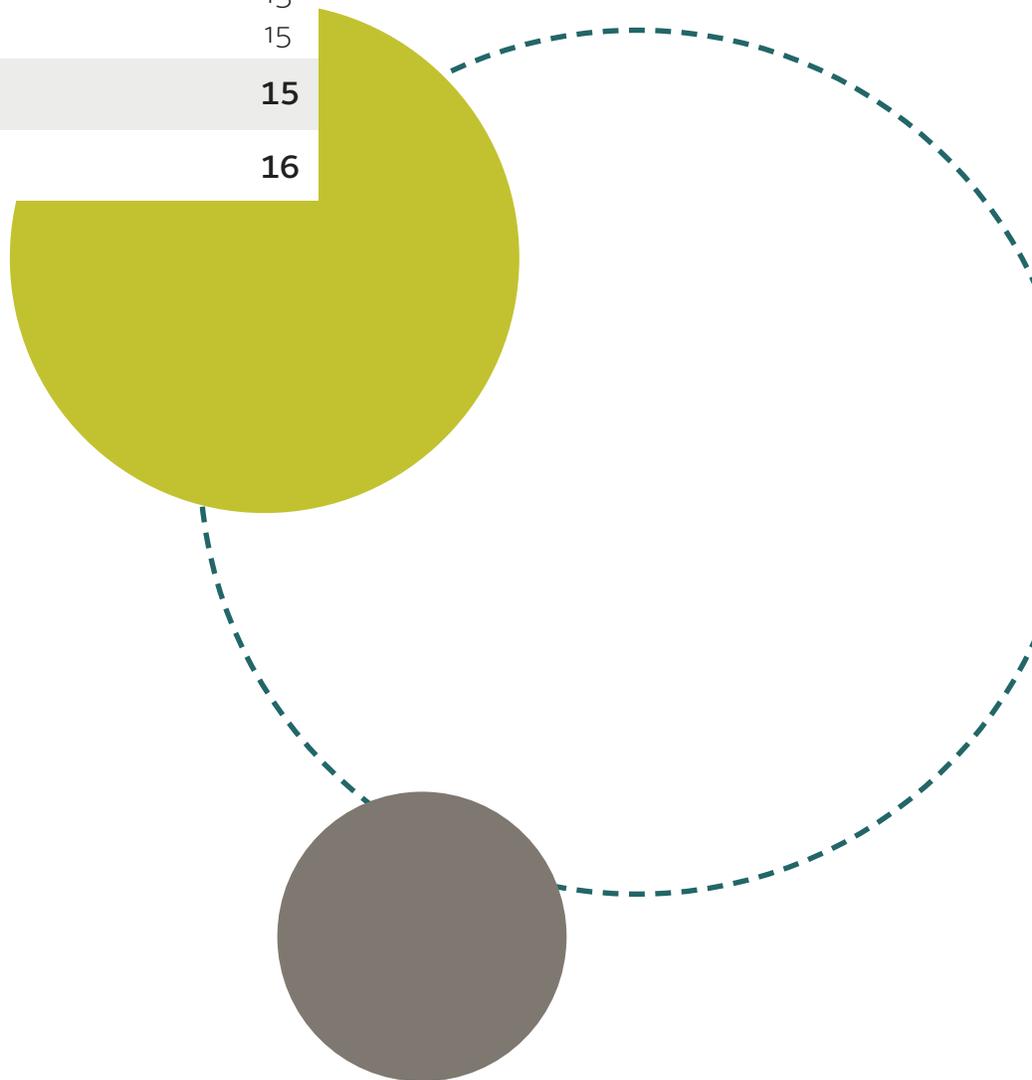
Project leads indicated that they would recommend regular check-ins with BCPSQC staff to troubleshoot any issues and provide opportunities for questions. Furthermore, some Project Leads recommended that the Student Education Day be supplemented with other training about quality and safety as part of the intern's onboarding process.

Following the internships, additional funding was made available to support the interns to disseminate the results of their projects. Five of the ten internship projects were submitted as abstracts to the Quality Forum 2020, and one participant was accepted to present at the Institute for Healthcare Improvement (IHI) 2019 National Forum in Orlando, FL.

Overall the 2019 Student Internship Program successfully met our program goals. Students with an interest in quality were provided with a valuable opportunity to learn, gain practical work experience and contribute to efforts to improve the quality of care in BC. We look forward to continuing to build on the strengths of the program and make improvements wherever possible.

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## BC PATIENT SAFETY & QUALITY COUNCIL

Working Together. Accelerating Improvement.

The BC Patient Safety & Quality Council is a driving force for high-quality health care in British Columbia. We deliver the latest knowledge from home and abroad to champion and support the best care possible for every person in our province.

System-wide impact requires creativity and innovative thinking. Using evidence-informed strategies, we shift culture, improve clinical practice and advance person- and family-centred care.

We understand that meaningful change comes from working together. We are uniquely positioned to build strong relationships with patients, care providers, health leaders, policymakers, senior executives, academics and others. These connections enable us to nurture networks, recognize the needs of our health care system and build capacity where it is needed the most.

If you want to improve BC's health care system, visit [BCPSQC.ca](https://bcpsqc.ca) to access programs and resources that can help you start today.

# PROGRAM OBJECTIVES AND STRUCTURE

The BC Patient Safety & Quality Council started its internship program in 2012 to support fully-funded student interns who can advance quality and safety projects aimed at improving the health care system. Over its eight years, the program has supported 76 students to join multidisciplinary improvement teams within the provincial health system. Project topics vary year to year, align with local, provincial, regional or local health priorities, span all areas of care, and focus on making improvement within multiple dimensions of quality.

The goals of the internship program are to:

1. Expand student knowledge of quality while providing practical experience as part of an interdisciplinary team working on a specific quality improvement project; and
2. Provide organizations throughout the province with a short-term, fully-funded resource to advance their quality improvement projects.

Early each year, the Council calls for project proposals that have a clearly defined role for the intern and offer a meaningful learning opportunity about the process of improving care. Project teams must have a designated supervisor and are responsible for providing the intern with space, supplies and any other resources necessary to complete the project. Project proposals are then evaluated based on selected weighted criteria (Table 1).

Table 1: **Criteria Used to Evaluate 2019 Project Proposals**

Criteria	% Weight	Description
Patient Impact	15	Preference will be given to projects that will have a tangible impact on patient care and outcomes
Team Composition	10	Preference will be given to proposals that involve the intern as part of a larger multidisciplinary team
Scope of the Role & Project	45	The extent to which the scope of the intern's role in the project is clearly defined and achievable within the timeframe
Educational Benefit	20	The extent to which the project would provide a meaningful learning opportunity about the process of improving health care quality
Topic	10	Priority will be given to project topics that align with health system priorities

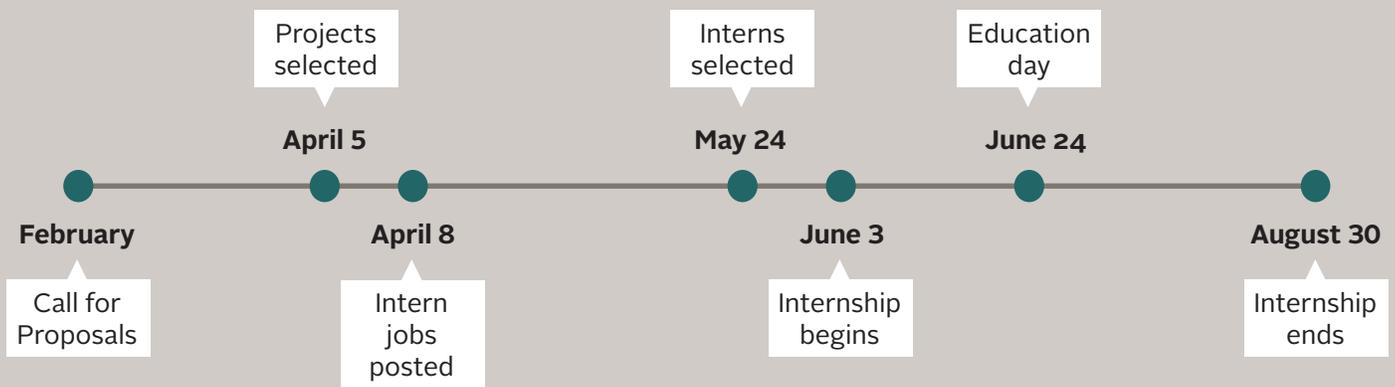
Project proposals are reviewed by a selection committee made up of internal and external stakeholders, with intern job postings for selected projects advertised on the Council website and within academic institutions. Medical, nursing and allied health students, both graduate and post-graduate, are eligible to apply. Student applications are reviewed by a Council staff member and a member of the project team, with the final hiring decision made jointly.

Interns are hired by the Council as casual employees and funded for up to 225 hours of work between June and August. In addition, interns are paid to attend an education day in late June, hosted by the Council, in which they learn the foundational skills necessary to be part of a quality improvement team. Students report directly to a supervisor on the project team and are supported through bi-weekly calls with a Council staff member. Monthly group calls to facilitate peer learning are also held throughout the duration of the project period. Funding is also provided to support the dissemination of project results so that students can share their work at conferences or through publication opportunities.

### ***Program Timeline***

Based on feedback received from students and project leads who participated in the 2018 program, the timeline for the 2019 program was adjusted to lengthen the respective periods for promotion of the program, submission of project proposals, and the application process (Figure 1).

Figure 1: **Timeline for 2019 Program**



44 project proposals were received (a decrease of 37% from last year) (Figure 2). 10 projects were selected, representing each regional health authority and two organizations within PHSA (Table 2). Projects were geographically dispersed across the province and represented a variety of dimensions of quality across several areas of care (Figure 3).

262 students applied for the 10 intern positions (a 67% increase). Many of the students applied for more than one position. 61% of applicants were in undergraduate programs, with Bachelor of Arts, Bachelor of Science and Bachelor of Science in Nursing programs being the most common. Diploma students (Health Information Management and Respiratory Therapy) made up the next largest population at 18%. Students from medical schools, and post-graduate programs were also represented (Figure 4).

Applicants from UBC's Vancouver campus made up the largest number of applicants, at 32%. An additional 16% of students were from SFU, 11% came from BCIT, 31% came from other colleges and universities within BC, and a smaller minority came from outside BC (Figure 5).

Figure 4: Internship Applicants by Program

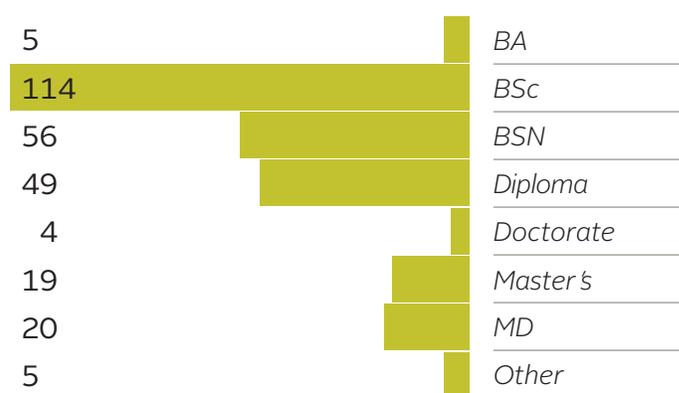


Figure 5: Internship Applicants by Post-Secondary Institution

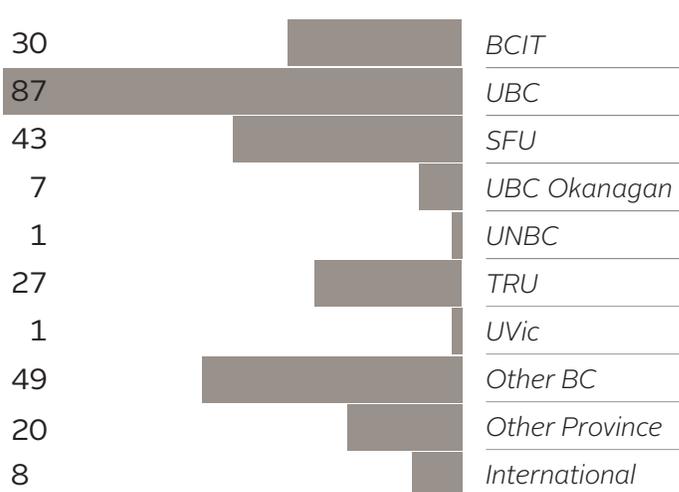


Table 2: 2019 Projects

Project Title	Organization	Location
Reducing MRI Appointment "No Show" Percentage	Northern Health	Fort St. John
Duet Wheelchair Biking Program	Menno Hospital	Abbotsford
Delirium: Prescribing Practices throughout the Patient Journey	Fraser Health	Port Moody
The <i>C. difficile</i> Canine Scent Detection Program	Vancouver Coastal Health	Vancouver
Improving access and positive patient experience with post stroke care in the Cowichan Valley: First Steps	Island Health	Duncan
Standardizing resource materials targeted to support group education sessions for medically complex/frail seniors on conditions common to frail older adults	Interior Health	Kamloops
Analysis and Identification of Ways to Improve Care in a Canadian Breast Clinic	Interior Health	Kamloops
Reducing unnecessary follow-up visits for radiology test results at BC Cancer – Vancouver Center	PHSA – BC Cancer	Vancouver
Incorrect Surgical Counts Working Group	Providence Health Care	Vancouver
Making Space for Health Equity and Cultural Safety in BCCDC Clinics	PHSA – BC Centre for Disease Control	Vancouver

Figure 3: 2019 Student Internship Projects by Dimension of Quality and Area of Care

### BC HEALTH QUALITY MATRIX

AREAS OF CARE	DIMENSIONS OF QUALITY				
	ACCEPTABILITY	APPROPRIATENESS	ACCESSIBILITY	SAFETY	EFFECTIVENESS
	Care that is respectful to patient and family needs, preferences, and values	Care provided is evidence based and specific to individual clinical needs	Ease with which health services are reached	Avoiding harm resulting from care	Care that is known to achieve intended outcomes
<b>STAYING HEALTHY</b> Preventing injuries, illness, and disabilities				✘	
<b>GETTING BETTER</b> Care for acute illness or injury		✘	✘	✘	✘
<b>LIVING WITH ILLNESS OR DISABILITY</b> Care and support for chronic illness and/or disability		✘ ✘	✘		
<b>COPING WITH END OF LIFE</b> Planning, care and support for life-limiting illness and bereavement					

✘ **EQUITY** Distribution of health care and its benefits fairly according to population need  
 ✘ **EFFICIENCY** Optimal use of resources to yield maximum benefits and results

DIMENSIONS OF QUALITY

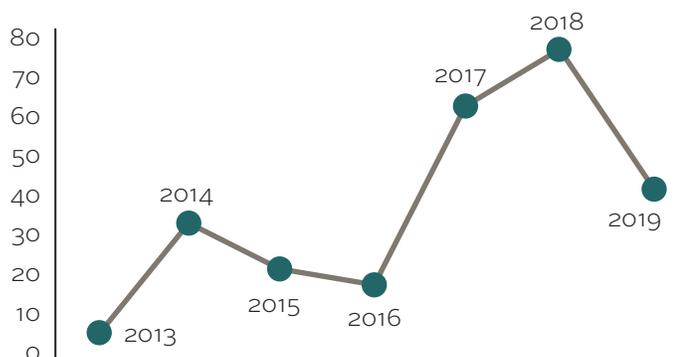
44

Project Proposals

262

Student Applications

Figure 2: Number of Internship Project Proposals Received by Year



Students were shortlisted by the project leads and interviews were conducted by a Council staff member in partnership with the project lead. All applicants were invited to attend the student education day. In addition, student applicants received information about registration for Quality Forum 2020, student contests, future careers in quality, and how to stay in touch with the Council through social media or newsletter connections.

# 2019 STUDENT EDUCATION DAY

13 students, including 9 interns, attended the student education day held at the Council's office location in downtown Vancouver. Registration for the education day was free and travel expenses were covered for the interns.

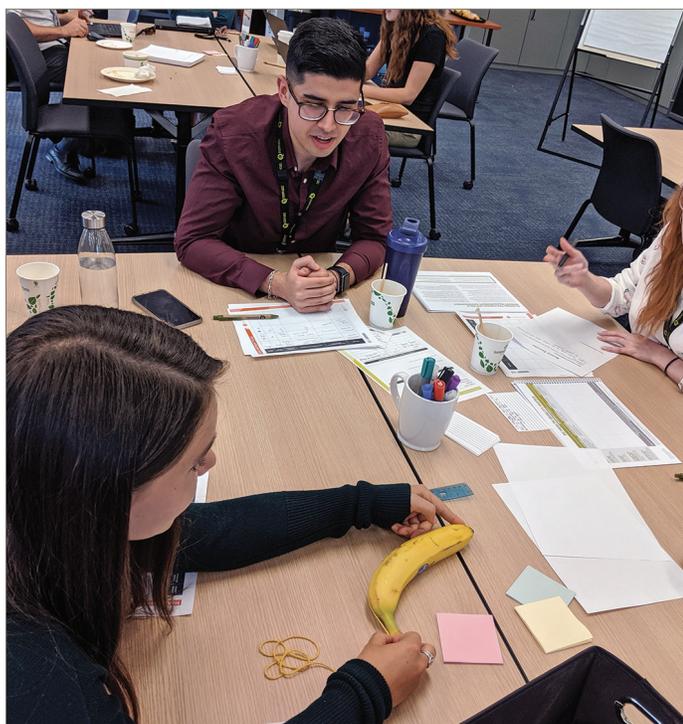
The student education day aimed to provide students an opportunity to explore the meaning of quality and enhance capability for making improvements within a complex system. Building on foundational knowledge, students enjoyed content on the fundamentals of change and a framework for improvement, as well as lessons on how to apply it in a real-world setting.

Students had a chance to practice testing change ideas within a short period of time as they took part in a fun applied learning exercise where they created multiple iterations of paper airplanes to apply the concepts of a 'Plan-Do-Study-Act' cycle. Many of the students identified this key concept as the most valuable thing they learned during the education day.



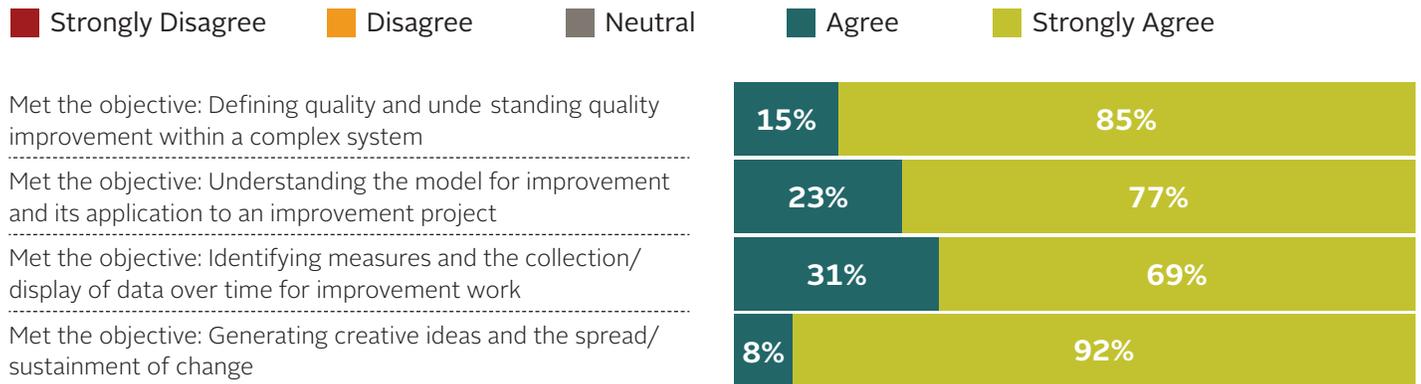
*"Thank you! (also, I love that all the material is free + accessible -> shows integrity and adherence to values!)"*

Student Education Day participant



Students learned about setting an aim and the importance of collecting data over time for improvement purposes. They explored strategies to collect, display and analyze data in a health improvement context. During one exercise, students worked in small groups to develop an operational definition or the measurement of a banana. The exercise drew parallels to the importance of using clear and consistent definitions in health system measurement. The results clearly showed they had some impressive mathematical abilities!

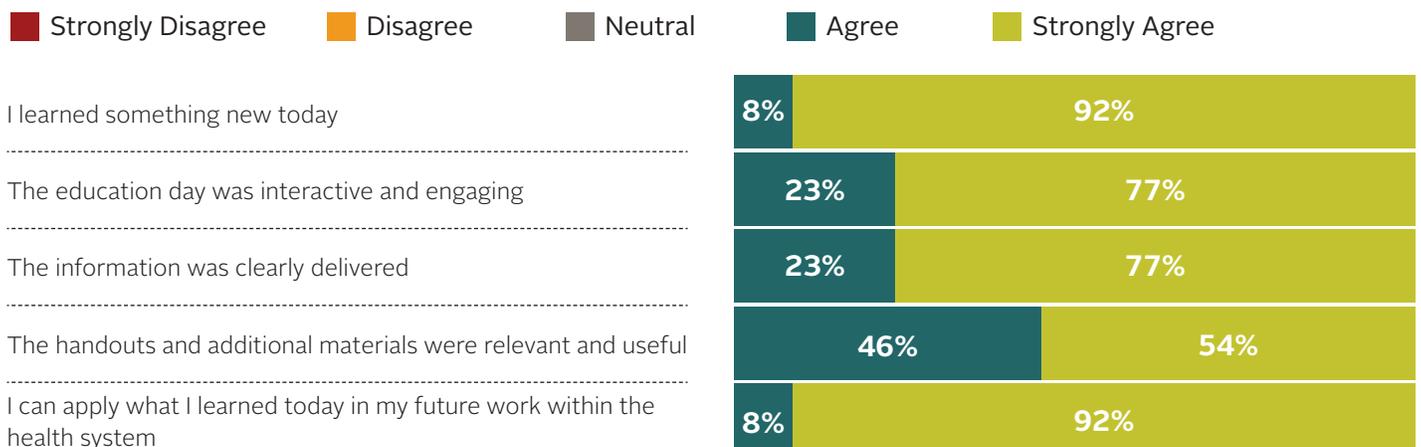
Figure 6a: **Student Education Day Evaluation: learning sessions**



100% of the students agreed or strongly agreed they could apply what they learned during the education day in their future work within the health system. When asked what they enjoyed most during the session, students reported the highly interactive nature of the education, the applied learning activities and the opportunity to connect lessons learned to their own improvement projects. One student noted, "I enjoyed learning about how I can apply what I learned to my internship project -> increased real-world significance".

During the evaluation and in follow-up conversations, several students mentioned the event was very useful and timely for those beginning work on their internship projects. However, it was noted that it may have been helpful to schedule this education day earlier to correspond to the beginning of the internship program. Students also provided valuable feedback about what could have made the day better, including more examples of quality improvement projects and additional interactive exercises. Students also said they would like to hear Council staff elaborate on how they gained the education and experience required for their role because they were interested in a career in quality.

Figure 6b: **Student Education Day Evaluation: Overall workshop objectives**



# EVALUATION RESULTS

After the internships finished, an online evaluation survey was sent to the project leads and interns to collect quantitative and qualitative information. 50% of the project leads and 100% of interns completed the survey.

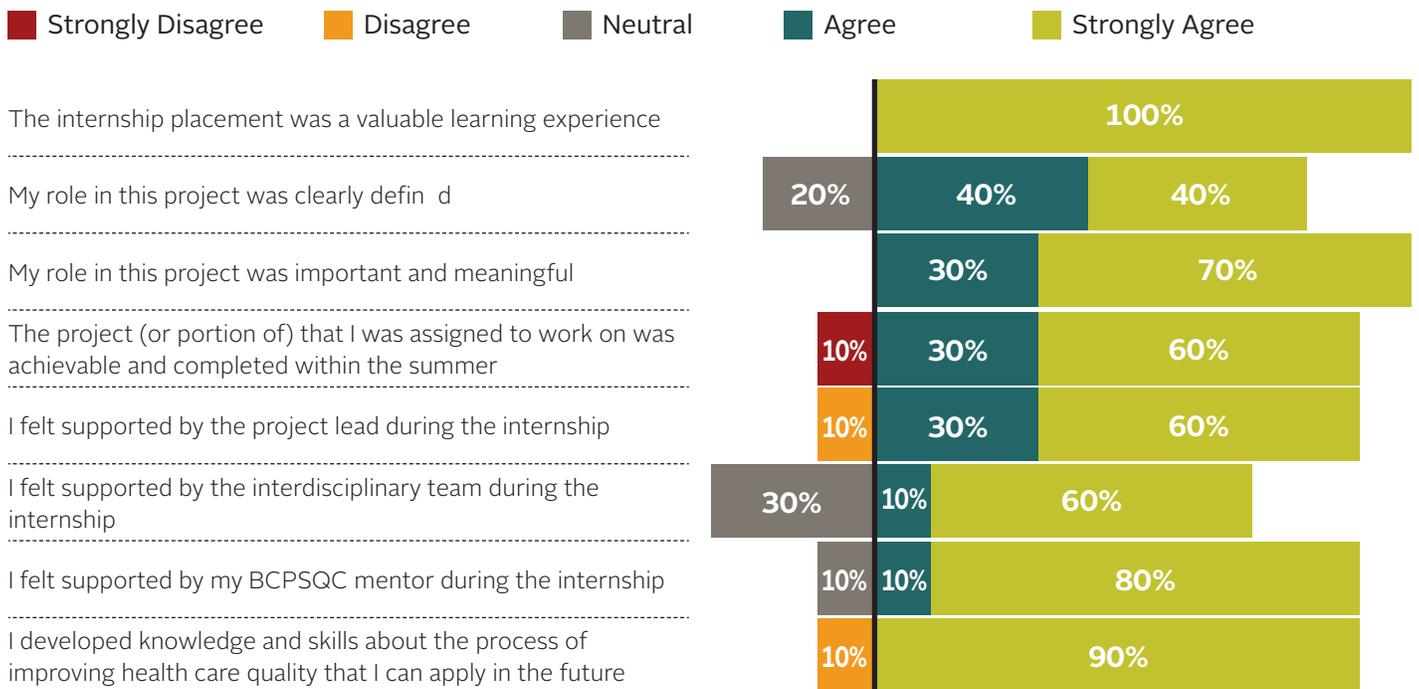
## Student Intern Results

### Post-Internship Student Survey:

Results from the ten intern respondents to the post-internship survey are included below – 100% of student interns agreed or strongly agreed that the internship placement was a valuable learning experience and that their role in the project they were hired to work on was important and meaningful (figure 7). Responses related to the level of support that students received from the project leads, the interdisciplinary teams that they worked with and BCPSQC staff members was generally positive but showed that this may be an area for future improvement (figure 7).

In addition to the below evaluation results, 100% of participants indicated that they would recommend the internship program to another student, and that they would be interested in working at the organization that they did their project with.

Figure 7: BCPSQC Summer Student Internship post-program evaluation: Students.



When asked about the biggest learning or take-away from the program, interns referenced the importance and complexity of quality improvement tools and methods, as well as the critical importance of collaboration with all stakeholders. They spoke of gaining an understanding of the complexity in the health system, and the benefits of working with an interdisciplinary improvement team.

Interns were also asked to comment on the challenges they faced, what strategies helped them address these challenges and what would have helped them overcome the challenges. These included insufficient time to complete their project, challenges with data analysis, and difficulties getting information from key stakeholders due to busy schedules.

Teamwork and collaboration played a prominent role in this evaluation – both as a positive aspect of the program (“I learned the value of not hesitating to contact team members or other healthcare professionals if they might have useful information or advice relevant to your project.”) and a challenge they faced (“Finding time in everyone’s schedules to meet was difficult as this work was happening in parallel to their clinical responsibilities, and therefore wasn’t always top priority.”). While it was ultimately seen as a key success factor, collaboration in the midst of competing clinical priorities and busy summer schedules posed a challenge to completing projects within the allotted project period.

Student Intern

*“Despite any frustration I might have had, I thoroughly enjoyed my experience as an intern and would gladly apply again. This was a fantastic opportunity and I’m so grateful for the work that the BCPSQC does to make this possible. Throughout the whole process I could see that mentoring and motivating students to consider quality improvement going forward in their careers was paramount, which gives me so much hope for the healthcare system as a whole. I will certainly be recommending this program to friends and touting the importance of QI principles going forward.”*

Student Intern

*“My overall internship experience was one for the books. Coming from a limited research background, it was a great introduction to research and highlighted the real-world applications of QI. I would recommend this program to incoming students, no matter their prior experience! Great way to spend the summer no matter where your interests lie, and a great way to improve the health of local communities.”*

Students identified regular mentor calls (both in a group and individually with a BCPSQC team member) as being beneficial during the project period. They also strongly indicated that the Student Education Day was a key component of the Internship Program, as it greatly advanced their learning about key quality improvement concepts early on in the process.

### **Long-term follow-up: Semi-structured Interviews.**

Students were offered the opportunity to participate in a semi-structured interview several months after the end of the internship period to share their perspectives after having some time to reflect. Three interviews were conducted, and all agreed that this was a valuable experience and they continue to see the importance and connection to patient care in this work.

*“Working on this project was also fulfilling because of the direct connection between the project and the patient environment. It made the link between the work that I was doing and improved care all the more obvious.”*

Student Intern

When asked whether students felt they could still apply the lessons they learned in the internship program to another project if required, they felt they could; especially if they continued to receive support from a project lead/co-lead.

Looking back, students felt that the flexibility of this program, plus the mentorship they received throughout the program from project leads and BCPSQC Staff are major strengths of the program.

## **Project Lead Results**

### **Post-internship Survey Results:**

Of the respondents (5), 100% agreed that having an intern helped to advance their quality improvement project and felt the intern's work was an asset to the project team (figure 8).

80% of project leads felt the project (or portion thereof) was achieved, the Council's support was appropriate, and the intern received adequate training in quality improvement knowledge and skills (figure 8).

Results from the five project lead respondents are included below: 100% of project lead respondents would recommend the internship program to other project teams and felt their intern would be a good fit for hiring into the appropriate position within their organization.

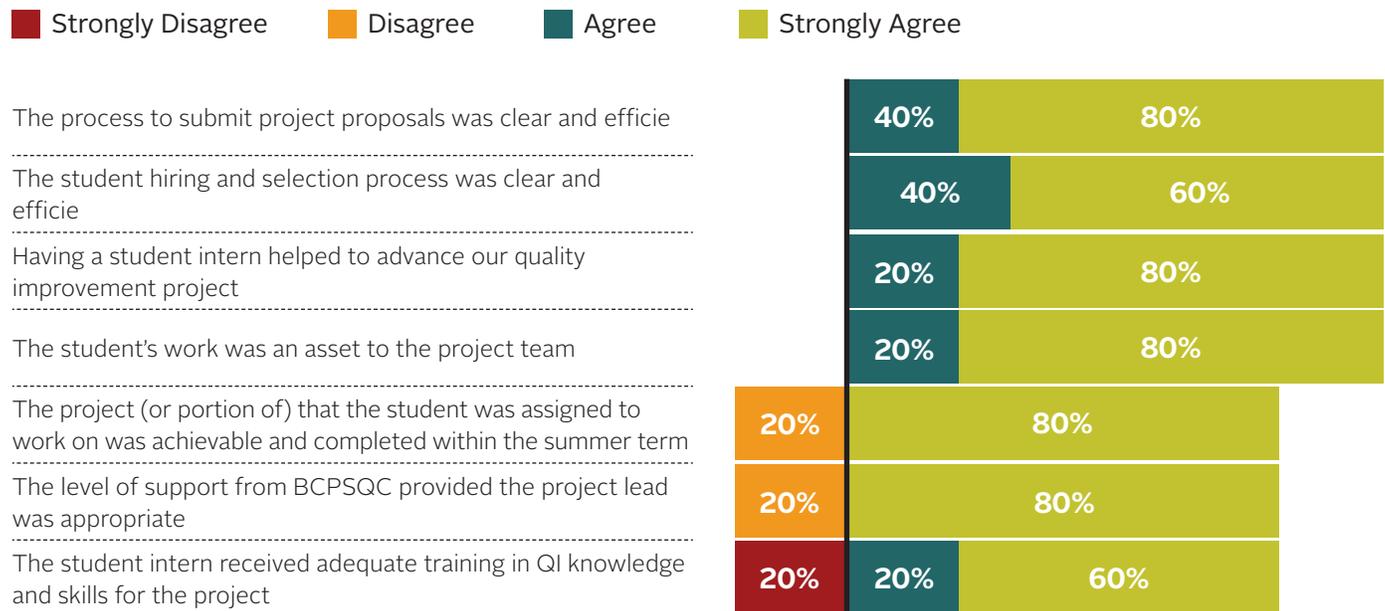
Project Lead

*“We can't say enough good things about our intern, and our team is looking at ways to continue working with her on research projects in the future. She was such a great addition to our team.”*

While most of the respondents were happy with the training provided, one Project Lead recommended a more advanced training program to ensure interns are fully prepared to participate in QI initiatives. Other project leads indicated that they would like additional support and mentorship from BCPSQC staff, and that improvements can be made to the selection and hiring process, which required a lot of work in a short amount of time to accomplish.



Figure 8: BCPSQC Summer Student Internship post-program evaluation: Project leads



## Project Dissemination

The interns were encouraged to disseminate results from their projects, and funding was set aside for each of them to support the cost of travel, event registration and materials. Five submitted abstracts to the Quality Forum 2020 in collaboration or with support from their project leads. One project was selected to be part of a rapid fire presentation while three others were accepted as storyboards. Additionally, one project was accepted as a storyboard to the IHI National Forum in Orlando, FL. Another student is waiting to hear whether her project will be accepted for an upcoming conference in BC.

In several cases, interns have continued to work with the project leads on a new portion of the improvement project. Furthermore, some students and project leads are currently collaborating to publish manuscripts on their improvement projects.

## IMPROVEMENT IDEAS FOR 2020

2019 was the first year in several which saw a decrease in the number of project submissions for the BCPSQC Student Internship Program. The reasons for this decrease are multifaceted, but one improvement to be made is to launch the call for project proposals earlier (target January 2020) and leave this call open for at least 6 weeks. The extra time will allow project ideas to be identified and submitted.

In 2019, projects were submitted via an online platform, similar to what was used for Quality Forum abstract submissions. Feedback from BCPSQC staff and reviewers was that this system was not user-friendly. In 2020 submissions will be done via a form hosted on the BCPSQC website.

Recruitment of students was generally successful, but there was a high amount of variation depending where the position was located. For example, only two applications were received for the Improving Access and Positive Patient Experience with post stroke care in the Cowichan Valley: First Steps project in the Cowichan Valley. In the coming years we will work to better communicate internship opportunities outside the Lower Mainland and other major centers.

The process of short-listing, interviewing and hiring students was a challenge for project leads and BCPSQC staff in 2019. Short-listing of students and interviews with BCPSQC staff and project leads was allocated two weeks to complete in order to have interns hired on time. Moving forward, more time is necessary to allow for sufficient time to recruit and to give more notice to Interns who require summer employment.

Students were very happy with the level of mentorship provided to them by BCPSQC staff. However, project leads felt that they would have liked a similar opportunity. We will work to identify new mentorship and networking opportunities for the project leads in 2020.

# SUMMARY

Based on evaluation results, the internship program successfully met the objective of increasing the capability of students in health care programs to play a meaningful role in quality improvement and patient safety programs. From a learner perspective, interns reported that the program expanded their knowledge of quality and the practical experience gained through the job placement was valuable. Project leads and system stakeholders appreciated having students to support their improvement work and felt the projects were advanced because of the student's contributions. While challenges with support and timelines were identified, project leads were appreciative and supportive of this program, and would all recommend colleagues pursue this opportunity in the future.

Student recruitment and support remains high for this project, but strategies to improve diversity of applicants (with regards to location and area-of-study) should be explored.

With over 75 student intern alumni, the program is helping the Council meet its strategic goal to build capability for health care system transformation and improvement by embedding quality within the foundations of learning for post-secondary students. Providing students with practical tools and opportunities to lead change in a real-world setting establishes a strong foundation of confidence, skills and abilities to make changes within a complex system when they transition from academia and become a part of the health care workforce.

Student  
Intern

*Overall my internship experience was very fulfilling. I feel that I have gained valuable knowledge regarding quality improvement projects and am happy to have been involved in one. I enjoyed working closely with my supervisor and learned a lot from them. I hope to be involved in more quality improvement projects in the future"*



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