PICNet PROVINCIAL INFECTION CONTROL NETWORK OF BRITISH COLUMBIA

Identifying the Gaps in Infection Prevention and Control Resources for Long Term Care Facilities in British Columbia

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BACKGROUND

Long term and rehabilitative care (LTC) services – with bed numbers exceeding those in acute care – represent an important aspect of health services bridging the community and acute care. Infection prevention control (IPC) in LTC has not been paid the same degree of attention as in acute care, despite general agreement that infections represent a significant source of morbidity and mortality for the LTC facility residents. The most common infections and multi-drug resistant organisms are often not followed using recommended surveillance methods, and there is significant variation in resources available across health regions for the implementation of effective control measures.

In addition, LTC facilities perform under a number of business models: from direct funding from the Health Authorities to private payer. The effects of these differences on the delivery of IPC have not been examined.

The first step in ensuring that we are providing safe, high quality care to all British Columbian (BC) LTC residents is to gain a clear understanding of the differences in IPC structures and processes used between regions and under the various care models. This information can then be used to identify the strengths and gaps in our current model of LTC infection prevention and control so that a more effective and standardized model can be established across the province.

OBJECTIVES AND EXPECTED OUTCOMES

The following objectives and expected outcomes for this project were as follows:

1. Building on the previous Provincial Infection Control Network (PICNet) needs assessment, establish the current status of infection surveillance in long term care and rehabilitative care province wide
2. Identify resources and needs in IPC in LTC
3. Identify priorities for IPC in LTC.

WORKING GROUP MEMBERS

PICNet wishes to thank the members of our LTC Needs Assessment Working Group:

Joanne Archer (PICNet)
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METHODS

A validated survey[1] was administered to a randomly selected representative sample of LTC facilities in each of the five geographical health regions of BC. The survey included 63 questions on 6 key indicators (called indices) of IPC:

1. Leadership index
2. Control index (infection control activities used)
3. Surveillance index (methods used)
4. ICP index (description of ICP coverage)
5. IPC policies index
6. Internal /external partnerships and material resources index

Each of the components of these 6 multi-factorial indices was identified in national and international guidelines and literature for effective IPC programs in the LTC setting[2,3,4,5,6]. Prior to this study, the face and content validity, and the feasibility of the survey were tested using the Delphi methodology with a panel of experts in LTC infection prevention and control, and the survey was pilot-tested to further establish its validity.

The senior manager with the greatest knowledge of the IPC program within each facility was contacted by phone and e-mail and asked to participate in the study by answering the survey questions. In almost all facilities with ICPs internal to the facility, the administrator who responded to the survey named themselves as the person who has the role of ICP. In the few cases where the administrator named another person as ICP within the facility, a second survey (please see Table 1) was used to verify the responses of the administrator respondent. Where a regional ICP also provided support to facilities, the Infection Prevention and Control Professional (ICP) was called and questions pertinent to the ICP's role and activities were asked again using the second survey.

Table 1: The two surveys:

- The full survey was completed electronically by the administrator within the facility who has the most knowledge of the infection control structures and processes established in the facility.
- A second ICP survey was developed with a few key questions from the original survey and asked again to ICPs who work from outside of the facility (i.e. regional ICPs). These questions were selected based on the pilot study findings; the administrator respondents often stated they did not know the answers to these questions.

Survey responses were collected electronically, using a password protected, web-based form. The responses were analyzed using the six indices above by assigning a single point value to each response, dividing by the total possible point value and multiplying by 100 to give a percentage. Point values were awarded based on target values established in national or international guidelines or through consensus of the expert working group. Partial points were awarded for graded responses (e.g. 0 points for never/rarely, 0.5 for sometimes, 1 point for always). Data were then analyzed using SPSS® for Windows. The components of each of the six indices are provided in the next section.

Where score calculations for certain indices required answers that, for some facilities, had been responded to twice (once by the administrator, and once by the ICP), 2 scores were calculated.

- "Admin responses" scores: These scores were calculated using only the responses given by facility administrators. No data from the second ICP survey was added.

- "ICP responses" scores: These scores were calculated using one of two responses. Where the facility administrator was not the facility ICP (i.e. this occurred usually for facilities with regional ICPs), the ICP survey response was used. Where the facility administrator named themselves as the facility ICP, their response from the original full survey was used. Therefore this score was calculated using only ICP responses.

Facility scores and responses were compared by region, funding source (public vs. private) and ICP availability.

The 6 Multi-Factorial Indices

The six multi-factorial (composite) indices were calculated using the data collected from the Administrators and the ICPs when applicable.

Leadership Indices

In the Leadership Index, only one of the components was measured in the ICP survey: "Clear assignment of Infection Control oversight" One point was allotted for each component (one question is asked for each component). The total score was divided by the number of components and multiplied by 100 to give a percentage. The leadership index score was therefore divided by 10 then multiplied by 100 to obtain the total Leadership Index score.

Leadership Index									
Physician				IC leadership structure			IC Committee		
Role	Time	Education		Reporting to administration	Clear assignment of IC oversight	Financial support	Active participation of senior management	Knowledge & understanding of regional, national or international resident safety initiatives	Degree of leadership provided
Leader vs. consultant	< 30 min/month, 30 min to <1hr/month, 1 to <5hrs/month, >5 hrs/month	One of (microbiology, epidemiology, Infectious Diseases, Infection Control)	Makes reference to regional, national or international resident safety initiatives (Rarely, occasionally, often)"	Yes/No	Yes/No	Percentage of Program financed by facility admin & HA	Yes/No	Yes/No	Local vs. regional

Control Index

One point was allotted for each component (one question is asked for each component). The total score was divided by the number of components and multiplied by 100 to give a percentage. The Control index score was therefore divided by 18 (there are 20 components, but two could not be measured in a valid way in the survey – these 2 components are in red print) then multiplied by 100 to obtain the total Control Index score.

Control Index

Outbreak control		Education						Preventative care for residents			Occupational transmission prevention				Error analysis			
Rapid control		ICP		Staff			Visitors & family	Admission screening	Immunization		New staff screening		Influenza prevention		Estimate of compliance	Monitoring system for compliance	Regular IC audits	
Average length of influenza outbreaks (in days) In the last 12 months, & 12 to 24 months ago	Average attack rate during influenza outbreaks in last 12 months, & 12 to 24 months	Access to IC courses or conf. (Y/N)	Paid educ. time (0, 1 day, >1 day)	ICP involvement in new staff IC orientation (frequency)	Access to IC materials (on ward?)	Materials used are approved by IC (Y/N)	Access (paid hours per year)	Avail. of material (on influenza, gastro, ARO, C-diff, UTI, pneumonia, TB)	TB (Y/N)	Yearly flu (Y/N)	One time pneumonia (Y/N)	Immun. status (Y/N)	TB skin test (Y/N)	Written policy for work restrictions during outbreaks (Y/N)	Yearly staff flu vac. Program (Y/N)	Estimate (from management) that staff follow policy >80% of time	Monitoring system in place (Y/N)	Done (Y/N)	Frequency

ICP Index

One point was allotted for each component (one question is asked for each component). The total score was divided by the number of components and multiplied by 100 to give a percentage. The ICP index score was therefore divided by 9 then multiplied by 100 to obtain the total ICP Index score.

ICP Index								
ICP					Within facility partnership			Resident / family partnership
Time	Education		Additional duties	Experience	Housekeeping	Liaison with OHS	Nursing	Resident / family / staff meetings
# of FTE ICPs per number of beds	Certification (CIC)	Courses in IC, epidemiology (0, 1, >1)	(OHS, resident safety, admin, educator, charge nurse)	In years (large > 2 yrs)	Type of communication related to IC (A)None, B)only outbreak control, C)IP&C initiatives and outbreak control	Type of communication related to IC (A)None, B)only outbreak control, C)IP&C initiatives and outbreak control	Type of communication related to IC (A)None, B)only outbreak control, C)IP&C initiatives and outbreak control	Average frequency

Policy and Strategy Index

One point was allotted for each component (one question is asked for each component). The total score was divided by the number of components and multiplied by 100 to give a percentage. The Policy & Strategy index score was therefore divided by 18 then multiplied by 100 to obtain the total Policy & Strategy Index score.

Policy & Strategy Index

Policies & Procedures								Safety Culture								Emergency Preparedness Strategy	
Development						Implementation	Product selection quality	IC promotion by Admin		Open communication flow within facility		Blameless reporting of errors	Clear IC G&O			Plan for surge capacity	Pandemic / Emergency plan
Written policies for a subset of key IC issues (Y/N)	Clear, concise language (Y/N)	Checklists (Y/N)	Staff participation (Y/N)	Regularly scheduled reviews (Y/N)	Quality (ICP or consultant involvement) (Y/N)	Readily available in work area (Y/N)	ICP participation (Y/N)	Financial support of IC initiatives (Y/N)	Admin support for IC initiatives demonstrated to staff (e.g. In newsletter or other correspondence) (Rarely, sometimes, often)	Admin support demonstrated regarding IC concerns from staff (Rarely sometimes, often)	Initiative supported by Admin (Feedback given to staff on changes made based on IC reports)	Initiative supported by Admin (Y/N)	G&O reviewed & updated regularly (Y/N)	Written IC G&O (Y/N)		Plan in place for facility (Y/N)	Plan in place for facility (Y/N)

Surveillance Index

In the Surveillance Index, 5 of the components were measured in the ICP survey: "Trend review", "Reports prepared routinely", "Report provided to stakeholders", "Frequency of report presented and reviewed by IC committee or admin", and "Improvements made based on report".

One point was allotted for each component (one question is asked for each component). The total score was divided by the number of components for and multiplied by 100 to give a percentage. The Surveillance index score was therefore divided by 12 (There are 13 components, but one could not be measured in a valid way in the survey – This component is in red print) then multiplied by 100 to obtain the total Surveillance Index score.

Surveillance Index											
Data collection						Data analysis		Reporting			
Simple written standardized definitions for infections		Surveillance for high Morbidity &Mortality infections		Quick & easy access to accurate data	Monitoring of antibiotics use	Trend review	Early detection of outbreaks	Report prepared	IC report provided to stakeholders	Use of report for Quality Improvement	
Use (Y/N)	Source	Case finding using one of: Charts, Kardex, vitals record, lab, rounds, staff report	Types of infections: influenza, CDAD, ARO	Yes/No	Done (Y/N)	Done routinely (Y/N)	For influenza outbreaks in last 24 months, time from onset of 2nd case to report to ICP or PH (Percentage reported in <24hrs, 24 to 48 hrs, >48 hrs)	At least quarterly, Every 6-12 months, Rarely or never, I don't know	Given to: Staff, physicians, administration, IC committee	Frequency of report presented to and reviewed by IC committee or admin (Never, as needed only, yearly and as needed, quarterly and as needed, more than quarterly)	Improvements made based on report (Y/N)

Partnership and Resources Index

One point was allotted for each component (one question is asked for each component). The total score was divided by the number of components for and multiplied by 100 to give a percentage. The Partnership & Resources index score was therefore divided by 20 then multiplied by 100 to obtain the total Partnership & Resources Index score.

Partnership & Resources Index																					
External Partnership support								IT for ICP				Lab services		Educational material					Budget
Support from IC program in other facility		Partnership with pharmacy		Epidemiology Consultant		Partnership with PH		Computer	Internet	Appropriate software for surveillance	Secretarial support	Virology	Bacteriology	Journals	Books	BCCDC outbreak reports	National guidelines		Dedicated to IC
Accessible (Rarely, sometimes, often)	Supportive (Rarely, sometimes, often)	Accessible (Rarely, sometimes, often)	Supportive (Rarely, sometimes, often)	Accessible (Rarely, sometimes, often)	Supportive (Rarely, sometimes, often)	Accessible (Rarely, sometimes, often)	Supportive (Rarely, sometimes, often)	Access (Y/N)	Access (Y/N)	Access (Y/N)	Access (Y/N)	Access (days per week)	Access (days per week)	Access to any IC journal (Y/N)	Access to any book on IC or epidemiology (Y/N)	One of GI or influenza regular reports (Y/N)	Routine & additional precautions (Y/N)	Hand hygiene (Y/N)	Yes/No

RESULTS

Response Rate:

According to data received from the BC Ministry of Health Services, 366 residential care facilities were operating in the province at the time the survey was conducted. One hundred and eighty-eight randomly selected facilities from the five geographical health care regions in BC were invited to participate. Figure 1 provides a comparison between the characteristics of all residential care facilities in BC's Health Authorities and the facilities sampled for this survey. They are compared by mean bed numbers and funding (Health Authority – HA, private for-profit – PFP, private not-for-profit – PNP, public-private partnership – P3, and unknown). Table 1 provides a statistical comparison between the sample and the characteristics of all facilities in the province. For those facilities where these characteristics were known, no statistically significant differences were observed between the mean bed numbers and the mean percentage of facilities within the different funding models.

Figure 1. Characteristics of All Residential Care Facilities in BC Health Authorities vs. Sample

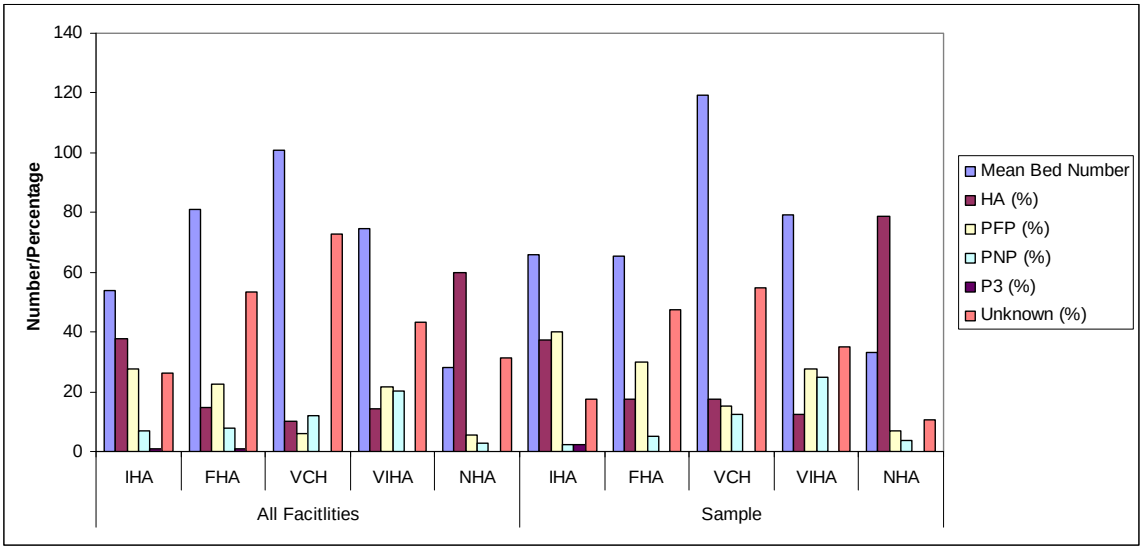


Table 2. Statistical Comparison between All Facilities in BC vs. Sample

	Bed Number	HA (%)	PFP (%)	PNP (%)	P3 (%)	Unknown (%)
All Facilities (mean)	67.7	27.48	16.72	9.94	0.44	45.5
Sample (mean)	72.6	32.72	23.92	9.72	0.5	33.14
P value	0.8	0.74	0.36	0.97	0.92	0.33

Eighty-six institutions responded to the on-line survey giving a 46% response rate. Seventy nine percent of respondents submitted completed surveys. The distribution of respondents from the five geographical regions in BC is illustrated in Figure 2. Figure 3 illustrates the response rate by Health Authority.

Figure 2. Geographical Distribution of Respondents.

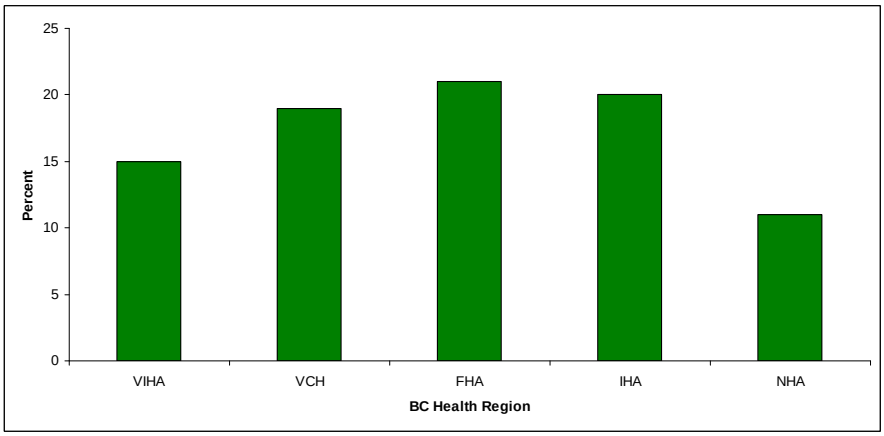
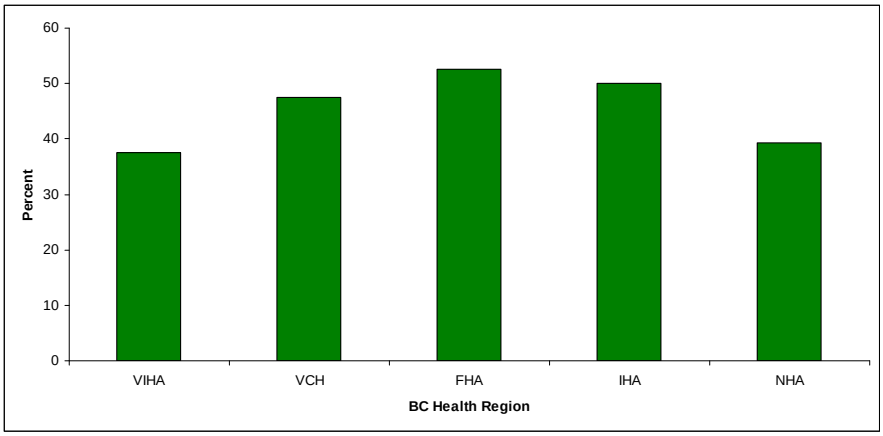


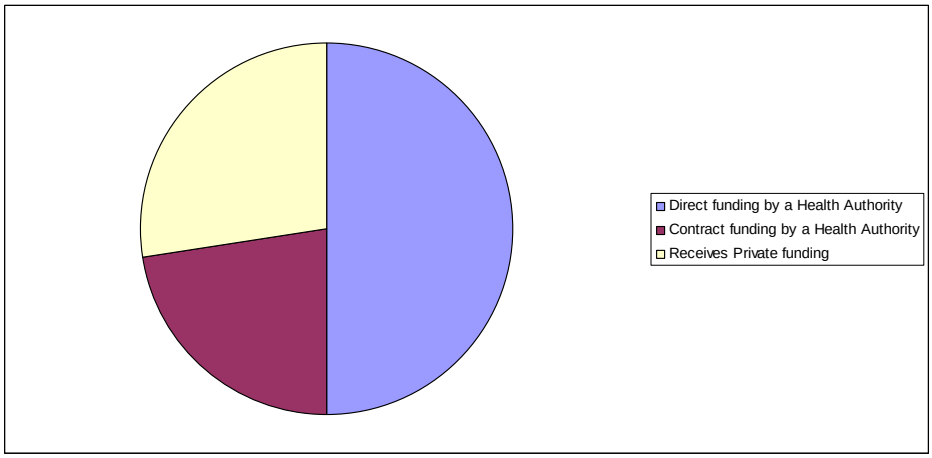
Figure 3. Response Rate by Health Authority



VIHA – Vancouver Island Health Authority
VCH – Vancouver Coastal Health
FHA – Fraser Health Authority
IHA – Interior Health Authority
NHA – Northern Health Authority

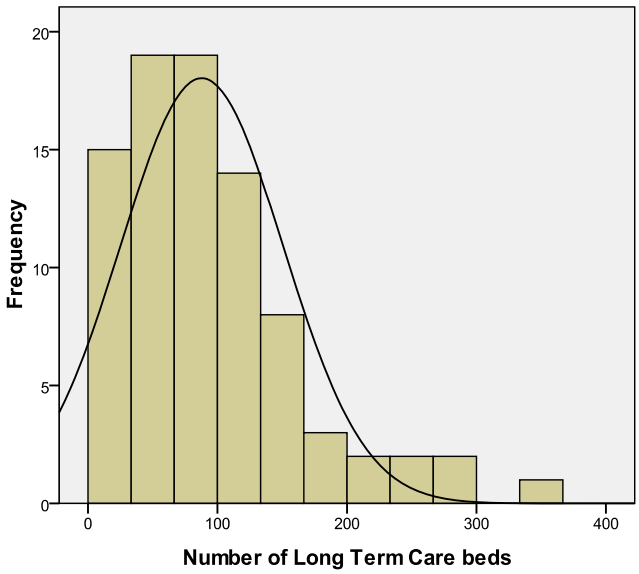
Figure 4 illustrates the source of funding for the facilities that responded to the survey. Fifty percent of the responding facilities were directly funded by the regional Health Authority in which they are located, 22.5% were contracted by the Health Authority and 27.5% of facilities receive private funding.

Figure 4. Facility Funding Source



The mean number of long term care beds in responding facilities was 93.5 (SD=68.9). Responding facilities also housed complex care and assisted living beds. The distribution of Long Term Care beds is illustrated in Figure 5.

Figure 5. Distribution of Number of Long Term Care Beds



This histogram shows the distribution of the number of beds in responding LTC facilities. Eighty five facilities reported their number beds. The mean number of beds was 93.5. Responding facilities ranged in size from fewer than 10 to more than 350 beds. The curve illustrates the distribution.

It should be noted that there may have been differences between the facilities that responded to the survey and those that did not respond. We are unable to analyze these differences as the facilities that responded did so anonymously in order to maintain confidentiality. This may bias our results as those facilities that are better resourced may be more likely to respond.

Leadership Index:

The Leadership index measures the availability of resources such as an IPC physician, an IPC committee, and a clear IPC leadership structure within the facility. LTC facilities lacked IPC leadership (Mean = 37.5%, SD= 19.2%) especially with regard to physician support. Figure 6 illustrates that only 5% of facilities had a dedicated physician with IPC responsibilities while 58% of facilities had no access to such a physician. The remainder could access an Infection Control Physician on a consulting basis. Forty percent of responding facilities reported that physician support was provided for less than 30 minutes per month. Figure 7 illustrates the number of physician support hours reported.

Figure 6. Infection Control Physician Support

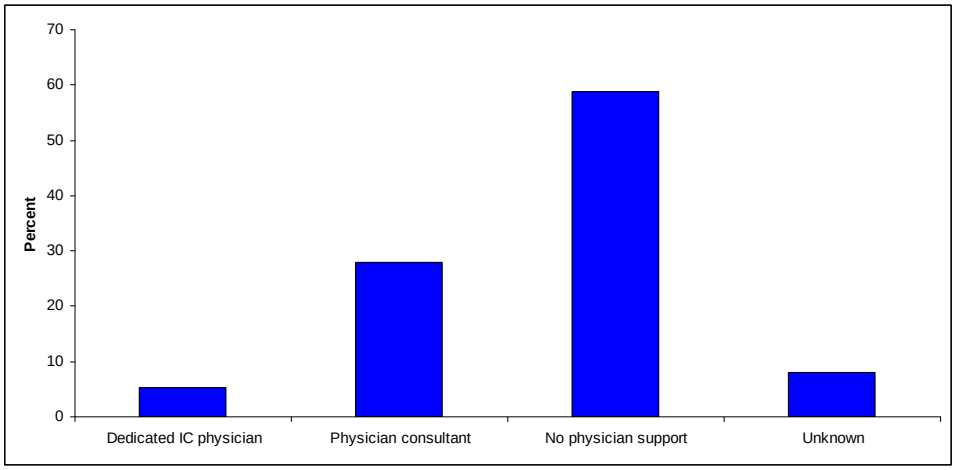
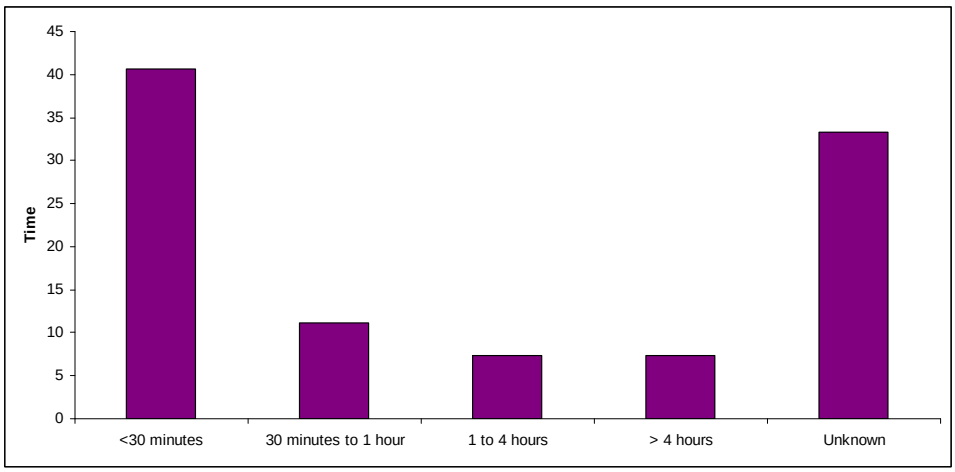


Figure 7. Hours of Physician Support Provided per Month



Thirty-six percent of facilities reported on site ICP support where 17% reported no ICP support at all. Figure 8 illustrates the type of ICP support available to the responding facilities. Figure 9 illustrates the availability of an infection control committee to address issues within the facility. Thirty-one percent reported having a local committee where 22% stated they had access to a regional committee. Twenty-five percent of respondents reported no infection control committee. The Vancouver Coastal (Mean = 46%) and Fraser Health (Mean = 41%) regions tended to have higher Leadership index scores than other BC regions. This is illustrated in figure 10.

Figure 8. Type of ICP Support

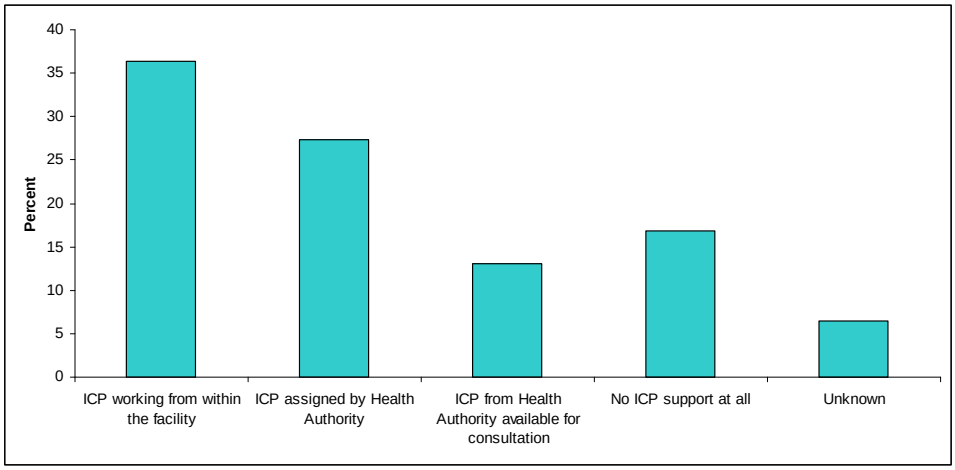


Figure 9. Availability of Infection Control Committee

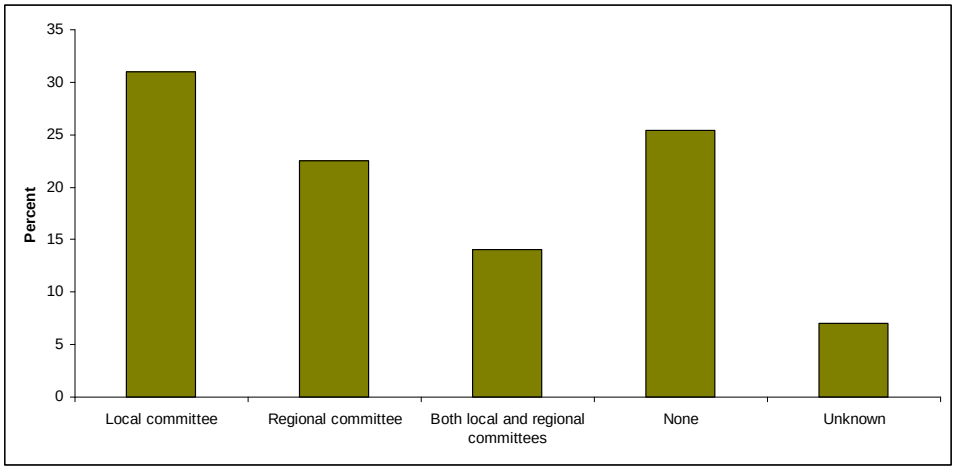
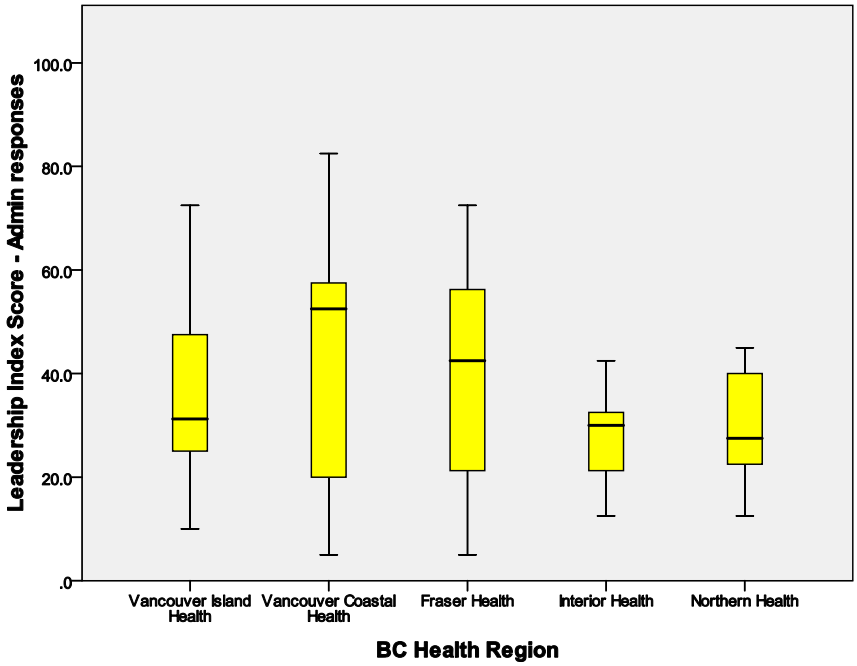


Figure 10. Distribution of Leadership Index Score by Health Region



Interpretation of Box-Plots

The Box-Plot, also known as the box and whisker plot, is a graphical method of displaying 5 descriptive statistics: the median, the upper and lower quartiles, and the minimum and maximum data values.

The lower edge of each yellow box is located at the first quartile (25th percentile).

The upper edge is at the third quartile (75th percentile).

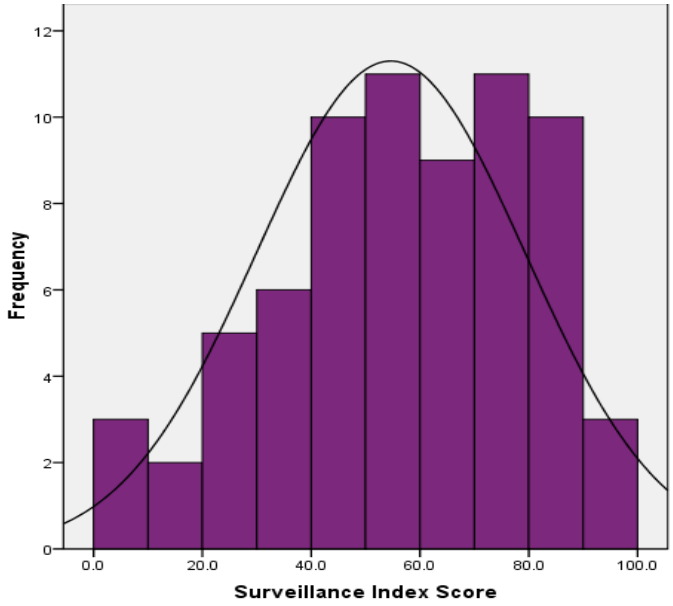
The black horizontal line is at the median.

The whiskers extending from the box reach out to the most extreme values up to 1.5 times the inter-quartile range.

Surveillance and Control Indices:

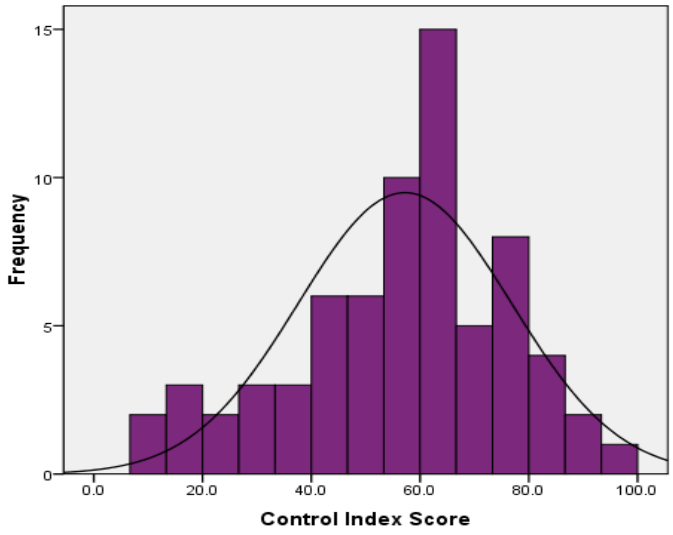
LTC facilities across BC are using only 56.2% (SD= 23.7%) of recommended surveillance activities (Figure 11) and only 56.7% (SD= 19.8%) of recommended infection control activities (Figure 12). On average, LTC facilities across BC are only using 55% of the IPC structures and strategies recommended by national guidelines.

Figure 11. Distribution Curve of Surveillance Index Scores for All Facilities



This histogram shows the distribution of the surveillance index scores for all responding facilities. The mean score was 56.2 with scores ranging from zero to 100. The curve illustrates the distribution.

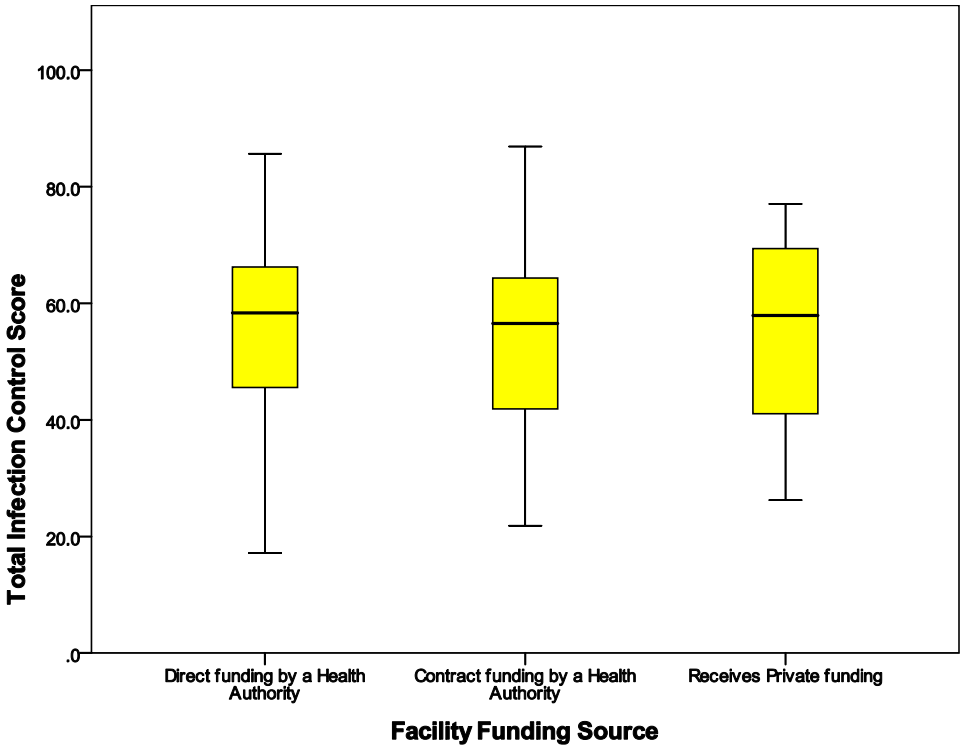
Figure 12. Distribution of Control Index Scores for All Facilities



This histogram shows the distribution of the surveillance index scores for all responding facilities. The mean score was 56.7 with scores ranging from ten to 100. The curve illustrates the distribution.

Funding source was not found to be a significant contributor to the overall quality of the IPC program. Figure 13 below illustrates the overall infection score by funding source. The mean infection control scores and distribution of scores for those facilities that receive direct funding, contract funding and private funding are not significantly different.

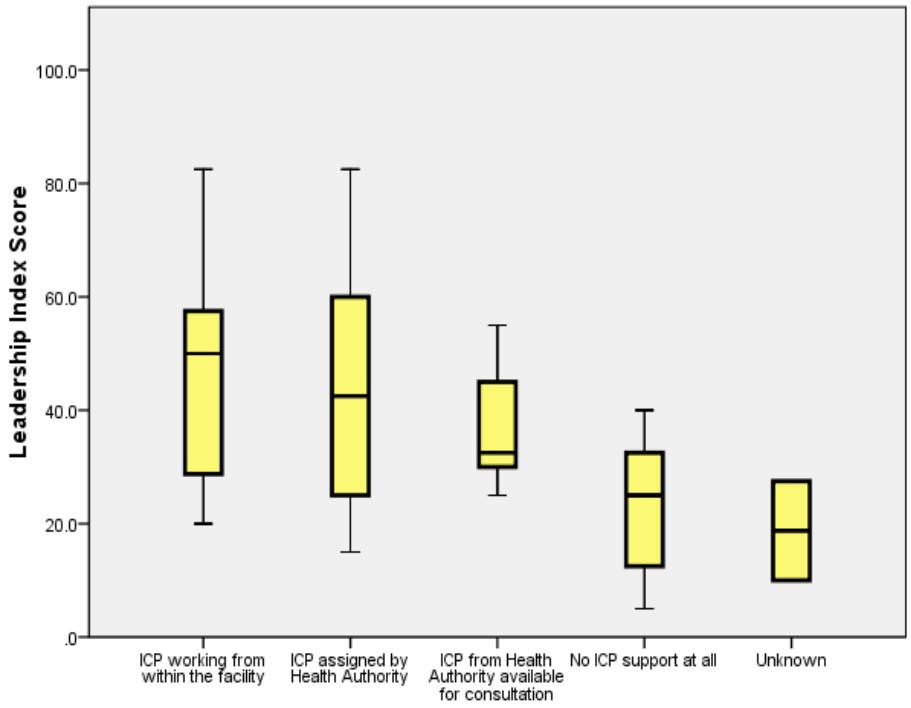
Figure 13. Distribution of Total Infection Control Score by Funding Source



Infection Control Professional Index:

Facilities with ICPs working from within facilities scored highest on the Leadership index (44.1%), followed by facilities with external ICPs assigned by the health authorities (43.0%), facilities with access to consultations from a regional ICP (36.8%), and facilities with no ICP resources (22.5%) had the lowest scores (Figure 14).

Figure 14. Leadership Index Score by Type of ICP Support



Having no ICP, either on site or through the health region, was associated with a lower IPC programme score (Figure 15). Similarly, much poorer scores on the surveillance and control indices were measured (Figures 16 & 17) for facilities without access to an ICP on site.

Figure 15. Total Infection Control Program Score by Type of ICP Support

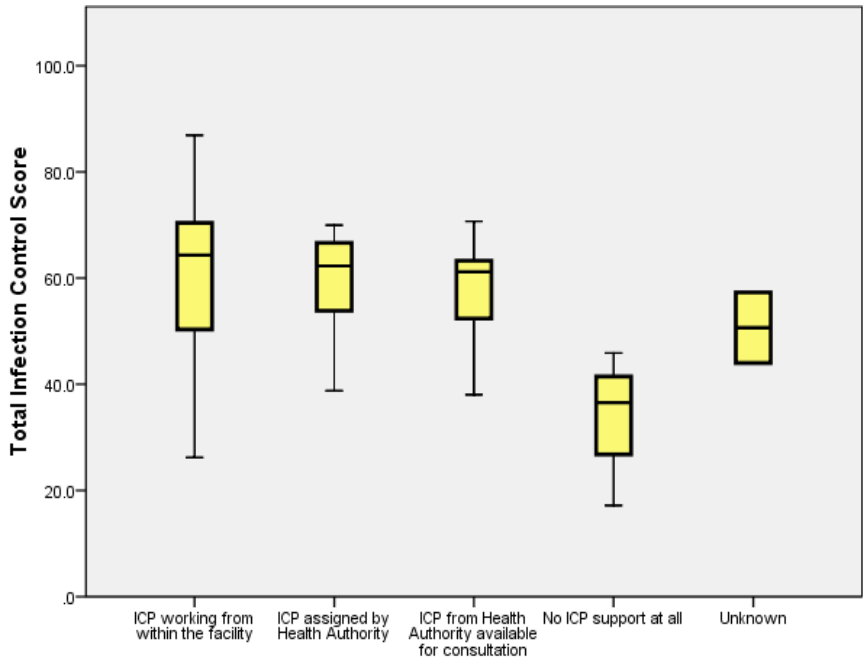


Figure 16. Surveillance Index Score by Type of ICP Support

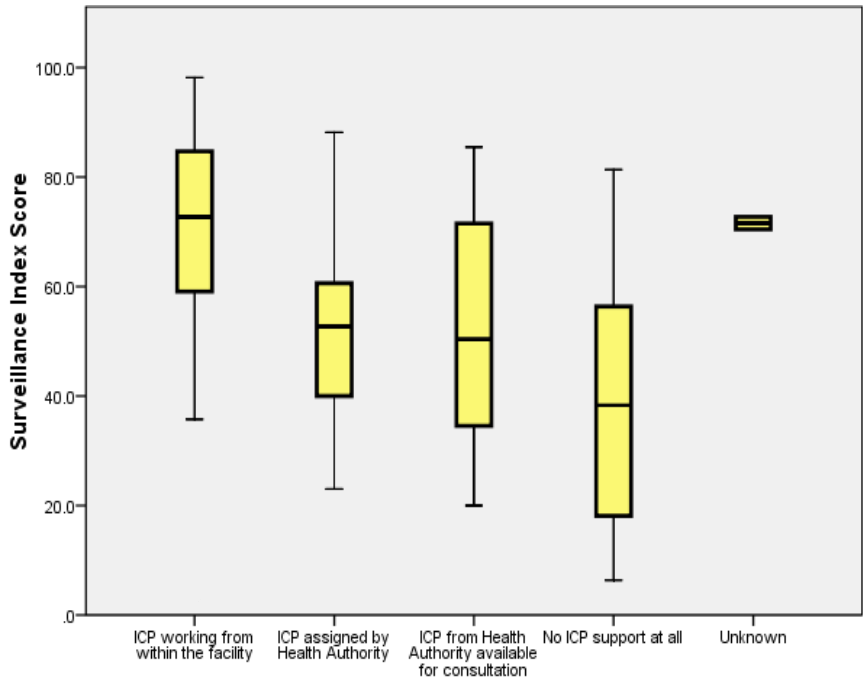
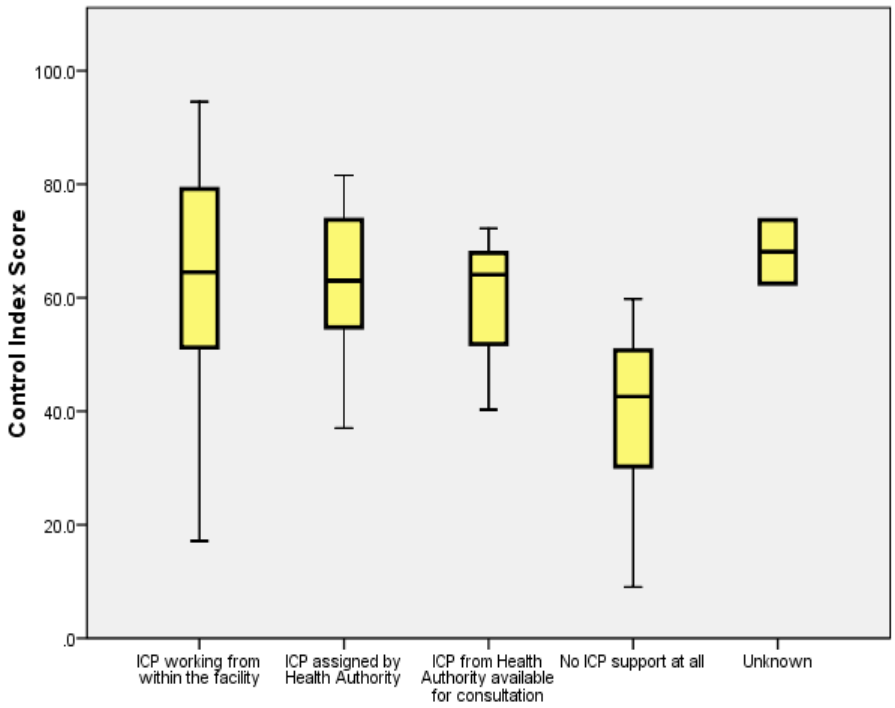


Figure 17. Control Index Score by Type of ICP Support



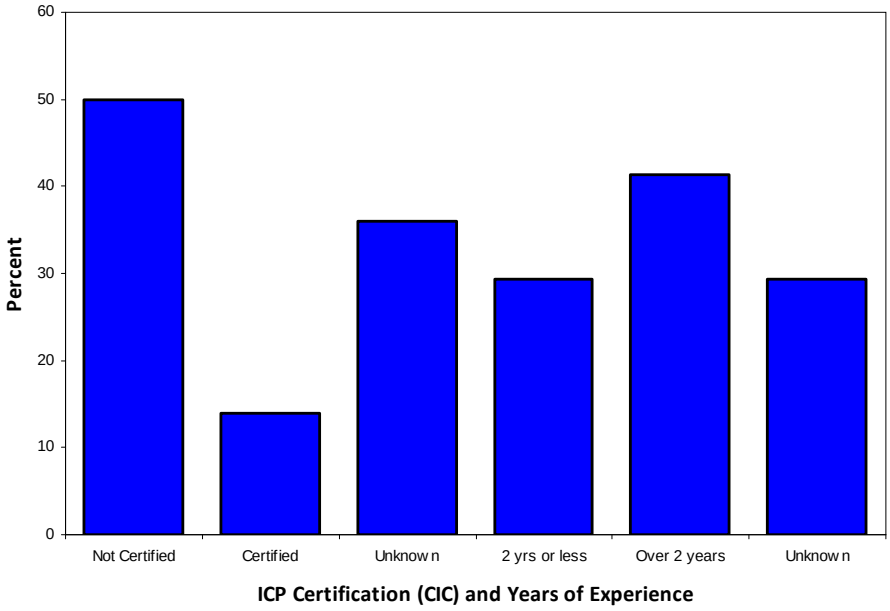
Thirty-two percent of institutions who did not have an ICP working from within the facility were unclear of the type of ICP regional coverage their facility was receiving. Responses greatly overestimated the activities performed by regional ICPs (e.g. IPC product selection, preparation and review of IPC reports). In addition 22% of ICPs had additional roles within the institution and 44% had additional roles outside of the institution. Table 3 provides the percentage of ICPs who assumed specified additional roles within facilities, including Educator, Manager and Occupational Health and Safety Advisor.

Table 3. Additional Roles of ICPs

ROLES	PERCENT
Occupational Health & Safety	23
Resident Safety	27
Manager	22
Educator	28
Charge Nurse (CRN)	6
Additional roles within the facility	22
Additional roles outside the facility	44

Only 41% of practicing ICPs had more than 2 years experience and only 14% were certified in infection control (CIC) (Figure 17).

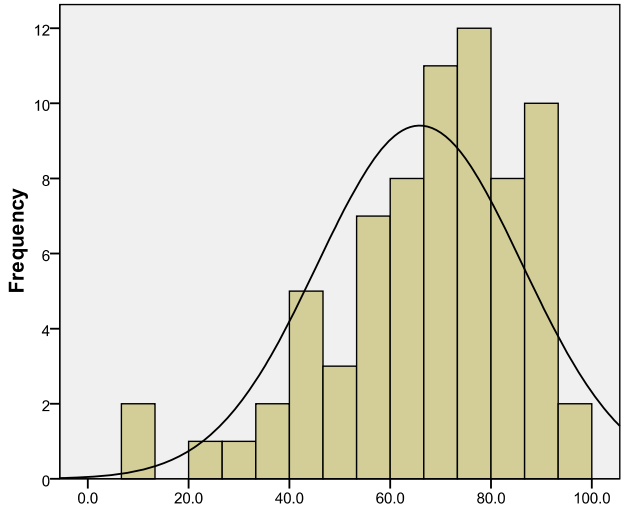
Figure 17. ICP Certification (CIC) and Years of Experience



Policy Index:

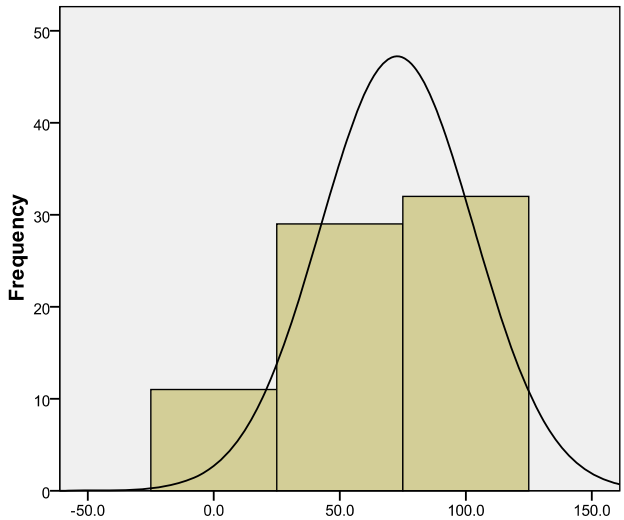
On average, facilities obtained their highest scores in this index. They had established 67.5% of the recommended IPC policies (SD = 29.3%). The weakest scores in this index were related to emergency preparedness (Mean = 64.6%). Figures 18 and 19 illustrate the distribution of responses for the policy and strategy index and emergency preparedness.

Figure 18. Distribution of Policy and Strategy Index Score



This histogram shows the distribution of the policy and strategy index scores for all responding facilities. The mean score was 67.4 with scores ranging from ten to 100. The curve illustrates the distribution.

Figure 19. Distribution of Emergency Prepareness Score

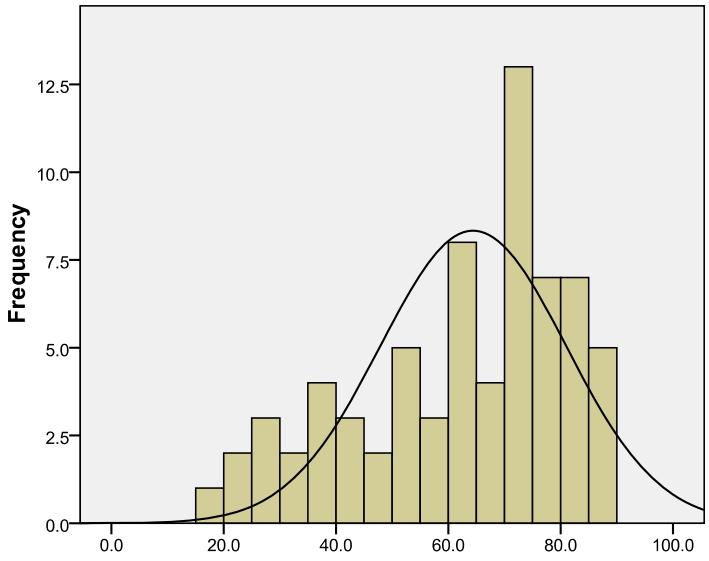


This histogram shows the distribution of the emergency response scores for all responding facilities. The mean score was 64.6 with scores ranging from zero to 100. The curve illustrates the distribution.

Internal /External Partnerships and Material Resources Index:

Facilities reported that, on average, they had established 61.3% of the key partnerships and material resources required for IPC support (SD = 18.7%). The distribution of partnership and material resources is illustrated in Figure 20. However, only 51.9% of key external partnerships were reported as being used, and 35% of facilities had no dedicated IPC budget.

Figure 20. Distribution of Partnership and Material Resources



This histogram shows the distribution of partnership and material resources scores for all responding facilities. The mean score was 61.3 with scores ranging from 15 to 90. The curve illustrates the distribution.

KEY FINDINGS AND RECOMMENDATIONS

The following priorities were identified as gaps that need to be addressed in order for the resident safety and quality of care in LTC facilities in BC to improve.

1. Physician Resources

The vast majority of facilities have little or no access to a physician to assist them with their infection control strategies. The Health Authorities should explore strategies to provide greater access of physicians with specialized training in infection through sharing of resources and greater collaboration among Health Authorities.

2. Resources for on site personnel identified as ICP

Often the person identified as responsible for IPC in LTC facilities have very little training, experience or support, and they are burdened with many other roles and responsibilities making it very difficult to focus on their IPC duties. In all indices measured the presence of an ICP on site was shown to improve the quality of IPC programs within facilities.

The recommended ratio for ICPs in LTC is 1 ICP per 250 beds[6]. This recommendation should take into account the complexity of care provided in the facility and should consider the scope of service provision and the geographic separation between worksites within each HA. The education and training for designated ICP staff in LTC should be included as part of strategic planning activities and quality management initiatives. Professional development plans should reflect the needs of the individual and the practice setting and/or background individuals bring to the role. Funding should be provided for infection control education/training to ensure that opportunities are available and minimum education standards for education/training must be flexible enough to address recruitment challenges.

3. Surveillance Capacity

LTC facilities across BC are using only 56.2% of recommended surveillance activities. Surveillance for antibiotic resistant organisms and *Clostridium difficile* are requirements for Accreditation Canada.

Health Authorities should review epidemiological services available to LTC facilities and devise a plan to provide epidemiological services to all facilities to assist in developing a comprehensive and consistent surveillance program. Training on surveillance data collection should be provided to the person identified as responsible for IPC and the use of shared databases should be encouraged wherever possible. Use of electronic data capture and existing electronic information should be employed wherever possible to minimize duplication of effort.

CONCLUSIONS

Our findings show that many LTC facilities lack the necessary resources to provide quality infection control programs. Although many of the facilities had established IPC policies and external partnerships to assist them with IPC issues that arise, most lacked the leadership and administrative support required to sustain an effective, high quality IPC program.

Strikingly the vast majority of facilities have little or no access to a physician to assist them with their infection control strategies. In addition, few facilities have an ICP available on site. On all indices measured by the survey, those facilities with an ICP on site performed significantly better than those without access to an ICP. Most ICPs were found to have very little training, experience and support, and they are burdened with many other roles and responsibilities making it very difficult to focus on their IPC duties. These issues need to be addressed in order for the resident safety and quality of care in LTC facilities in BC to improve.

TERMS AND ABBREVIATIONS

Long Term Care (LTC): Also referred to as Residential care, are facilities providing 24-hour professional nursing care and supervision in a protective, supportive environment for people who have complex care needs and can no longer be cared for in their own homes.

Infection Prevention and Control Professional (ICP): Trained individual responsible for a health care setting's infection prevention and control activities.

Infection Prevention and Control (IPC): Measures practiced by health care personnel in health care facilities to decrease transmission and acquisition of infectious agents (e.g. proper hand hygiene, scrupulous work practices, use of personal protective equipment (PPE) [masks or respirators, gloves, gowns, and eye protection]; infection control measures are based on how an infectious agent is transmitted and include standard, contact, droplet, and airborne precautions.

Provincial Infection Control Network of British Columbia (PICNet): PICNet is a provincially supported professional collaborative encompassing regional and provincial health organizations. Funded in 2005 by the BC Ministry of Health, the network guides and advises on healthcare associated infection (HAI) prevention practices for healthcare settings in BC.

Certification in Infection Control (CIC): The Certification Board of Infection Control and Epidemiology, Inc. (CBIC) endorses the concept of voluntary, periodic certification for all infection control professionals meeting educational and practice requirements. The purpose of the certification process is to protect the public by providing standardized measurement of current basic knowledge needed for persons practicing infection control, encouraging individual growth and study, thereby promoting professionalism among infection control professionals and formally recognizing infection control professionals who fulfill the requirements for certification.

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