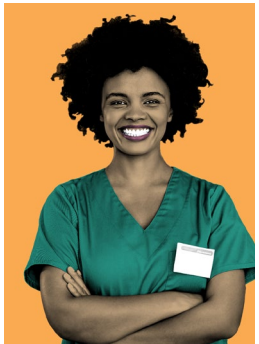
Assessing Public Health Nurse Training Needs for Infection Prevention and Control

Key Findings



Project Partners

NNPHI is the central hub for public health institutes working to improve public health in the United States. NNPHI works to unite public health institutes, training centers, community organizations, government agencies, health care systems, and businesses in advancing public health practice and improving population health.

Cardea is a national, women of color-led organization with more than 50 years of experience in social impact evaluation, policy advancement, capacity development, and professional learning. Cardea envisions a world in which optimal health and well-being, equity, and justice are realities for all communities.

Disclosure

NNPHI and its subcontractors' work on Project Firstline is supported by the Centers for Disease Control and Prevention of the U.S. Department of Health and Human Services (HHS) as part of a financial assistance award totaling $3,500,000 with 100 percent funded by CDC/HHS under CFDA 93.421 Centers for Disease Control and Prevention Cooperative Agreement 6 NU38OT000303-02-04. The contents are those of the author(s) and do not necessarily represent the official views of, nor an endorsement, by CDC/HHS, or the U.S. Government.

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Introduction & Methods

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NNPHI supports IPC-related learning needs of the public health workforce through Project Firstline

As a collaborative, the Centers for Disease Control and Prevention's (CDC's) Project Firstline brings together more than 75 healthcare, academic, and public health partners to reach healthcare workers across the country with infection control education. Project Firstline offers educational resources in a variety of formats to meet the diverse learning needs and preferences of the healthcare workforce. Resources are designed using adult learning expertise, educational best practices, CDC recommendations, and the science that informs them. NNPHI partners with Project Firstline to support the public health workforce's training and education needs related to infection prevention and control (IPC).

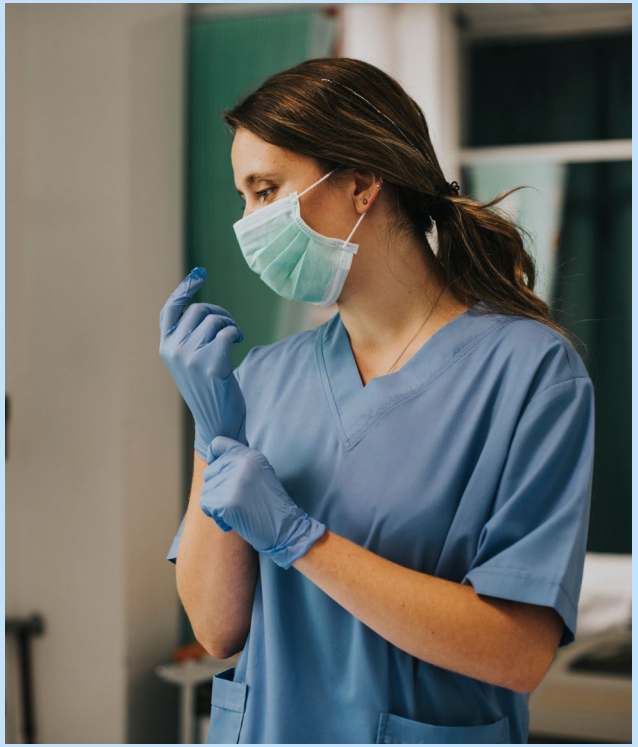
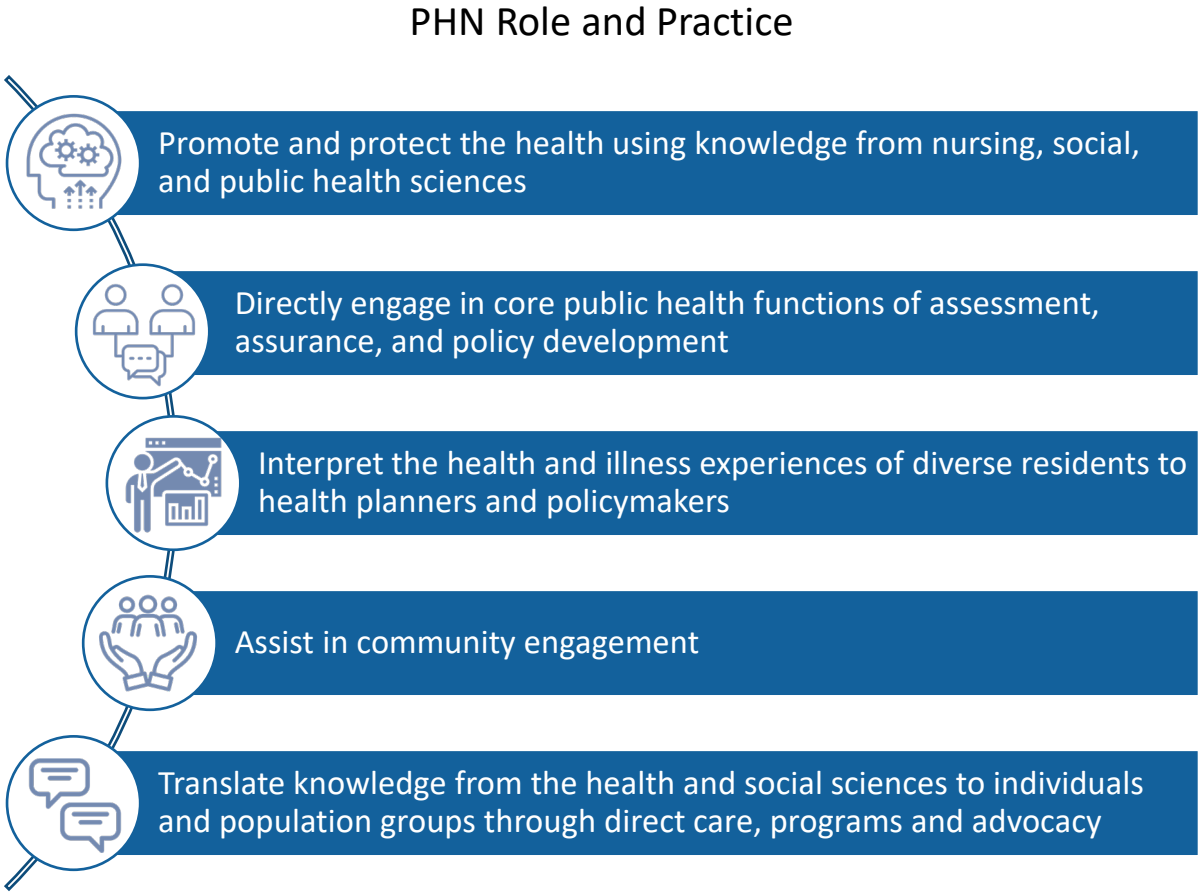


Photo: Adobe Stock Collection

Public health nurses play a critical role in IPC

Public health nurses (PHNs) are a vital component of the public health workforce, often providing important frontline support for IPC to a wide range of health care organizations including long-term and post-acute care settings. PHNs develop strong, trusting relationships with the providers and patients they support to advance IPC. PHNs engaged in IPC activities also juggle multiple responsibilities.



Source: (American Public Health Association, 2023)

This project seeks to summarize the IPC training needs of public health nurses

Despite the critical role that PHNs play in IPC, little is known about their unique training needs as it relates to IPC. In 2023, with support from Project Firstline, NNPHI partnered with Cardea to better understand the training needs and preferences of the diverse Public Health Nurse (PHN) workforce to boost PHN capacity to support IPC-related policies and practices.

Through a literature scan, interviews, and a survey, this project assessed the training needs for PHNs who provide IPC support. Cardea and NNPHI worked collaboratively to develop assessment tools and interpret findings included in this final report.

Photo: Adobe Stock Collection

We focused the assessment on essential skills, values, and training preferences

5 Essential Transferable Skills for All	7 Essential Values/Attitudes for All
Strategic Thinking Situational Awareness Problem Solving Emotional Intelligence Communication	Openness to Learn Self-efficacy Diversity & Inclusion Networking Community Building & Sustainability Trust Teamwork

5 Essential Role-Specific Performance Objectives
Information Management Information Analysis Change Management Leadership Policy Engagement

Cardea conducted a scan of 28 documents to focus and hone the assessment. The COVID-19 pandemic highlighted that the public health workforce needed training on a variety of topics, including basic IPC guidance and disease-specific guidance, communication & relationship building strategies, and provider education. Across the workforce, there are also common skills and values that are integral to success, which can serve as a foundation for professional development.

Source: (NNPHI Report on the Essential Skills and Training Needs for Infection Prevention & Control, Healthcare Associated Inflections & Antimicrobial Resistance, 2023)

The literature scan identified several training strategy recommendations

Prior assessments of training needs and preferences of public health workers have identified promising methods and practices to build core competencies and skills for IPC. Emerging artificial intelligence (AI) technology also may improve education through sophisticated simulations and personalized learning. AI is continuously being reviewed and refined, and further research is needed to identify its best uses for professional development.

Blend asynchronous and synchronous learning events

One-on-one or small group mentorship from professionals in the same field with similar lived experiences

Microlearning that breaks learning into smaller pieces to increase engagement and completion

Unique and accessible webinars and podcasts

Seamless, flexible, and efficient online courses

QR codes that provide easy and quick ways to connect professionals with relevant information

Guided by the literature scan, Cardea developed a survey to better understand the skills, attitudes, and knowledge of public health nurses who support IPC

Informed by the literature scan, Cardea NNPHI, and their key partners developed a survey for PHNs engaged in IPC. The survey complemented interviews and allowed for broader reach. Respondents reflected on skills, attitudes, and knowledge and shared their training preferences. The survey was open from late March 2024 through June 2024 and was shared through word-of-mouth, direct communication with colleagues of the project team, and outreach to State Healthcare-Associated Infection (HAI) Coordinators. Survey participants were eligible for $25 flexible, electronic gift cards in recognition of their time and insights.

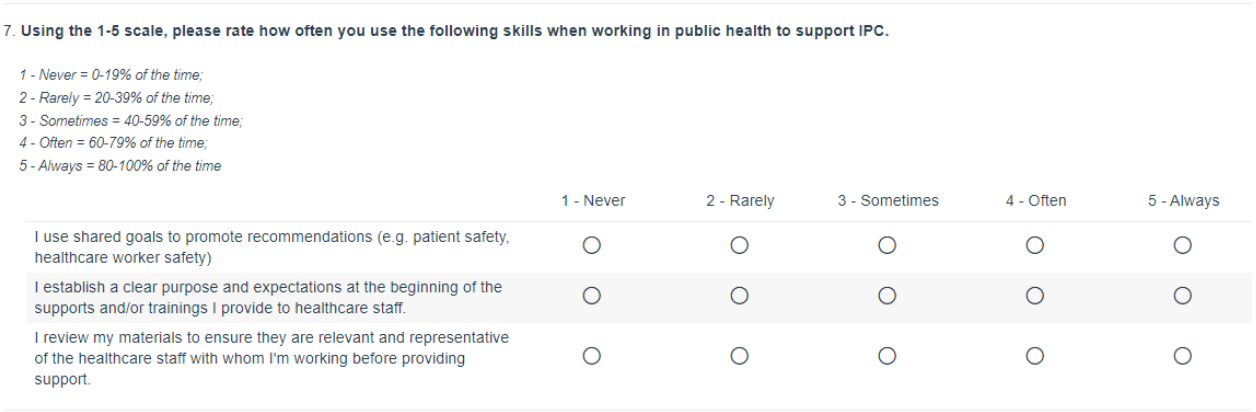
Survey response & analysis

- Received 53 complete survey responses from PHNs across 25 states
- Conducted aggregate, univariate analysis of variables to assess the average scores and responses to develop initial understanding of data

The essential skills survey included a self-assessment Likert scale section

The survey included a five-point Likert scale to measure self-reported frequency of essential skill and essential attitude practice, from never to always. Each essential skill scale included three statements, one of which was inversely worded for three domains. Each essential attitude scale included three statements, one of which was inversely worded for all four domains. An example of an essential skill scale is provided here.

The survey also asked about confidence in IPC knowledge and importance of specific nursing activities that support IPC, using five-point scales.

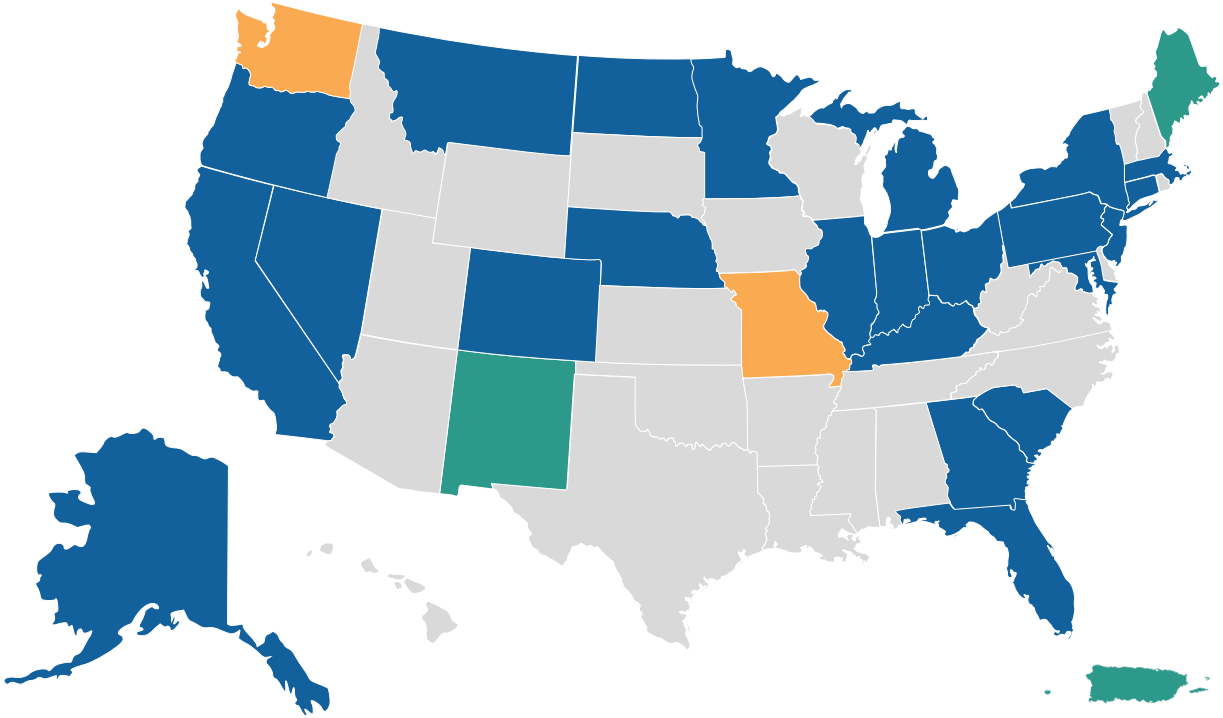


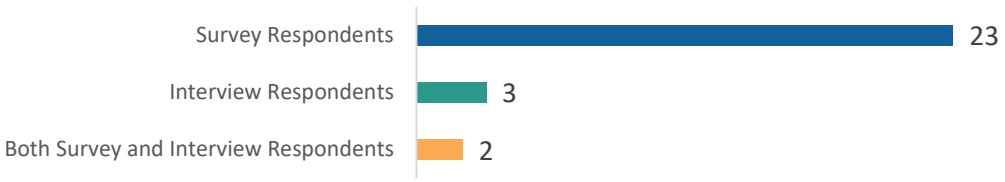
7. **Using the 1-5 scale, please rate how often you use the following skills when working in public health to support IPC.**

1 - Never = 0-19% of the time;
2 - Rarely = 20-39% of the time;
3 - Sometimes = 40-59% of the time;
4 - Often = 60-79% of the time;
5 - Always = 80-100% of the time

	1 - Never	2 - Rarely	3 - Sometimes	4 - Often	5 - Always
I use shared goals to promote recommendations (e.g. patient safety, healthcare worker safety)	○	○	○	○	○
I establish a clear purpose and expectations at the beginning of the supports and/or trainings I provide to healthcare staff.	○	○	○	○	○
I review my materials to ensure they are relevant and representative of the healthcare staff with whom I'm working before providing support.	○	○	○	○	○

Survey and interview respondents were from 27 different states and one territory



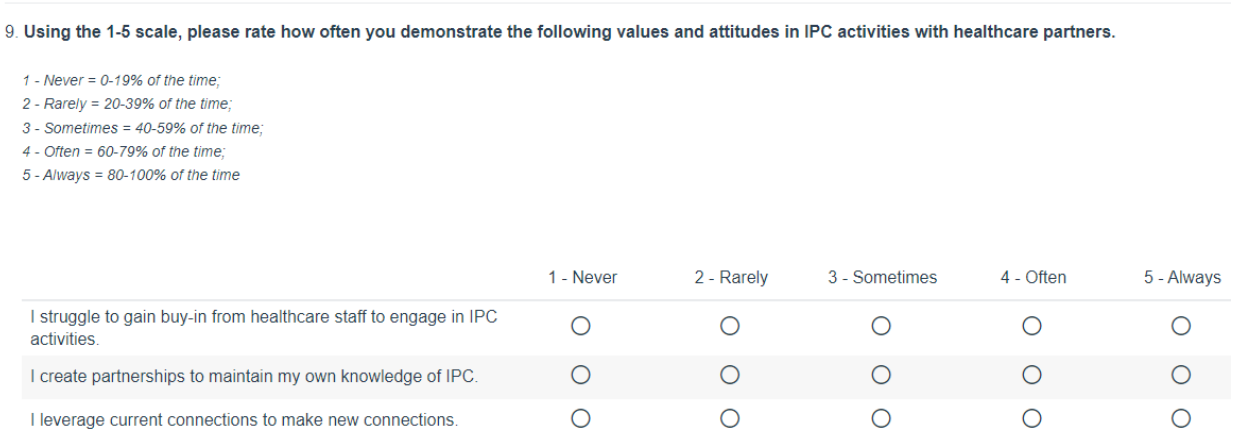


- Over half of respondents were general public health nurses
- More than a quarter of respondents had >10 years of experience as a PHN and in IPC, and about half (55%) had <5 years of experience
- Most respondents identified as white (77%). BIPOC respondents include those who identified as Asian/Asian-American, Black/African-American/African, Hispanic/Latino/Latina/Latinx, or American Indian/Alaska Native

See Appendix for more survey respondent demographics.

Descriptive and univariate analyses of survey responses were disaggregated

Likert scale data are presented by: 1) frequency with which the answer options were selected and 2) average scale score. Cardea calculated average scores for each skill and attitude category, reversing the scale for inversely worded statements. Cardea averaged means and compared average scale scores by demographic groups using t-tests and ANOVAs. With a small sample size, Cardea collapsed some demographic groups to preserve confidentiality.



9. **Using the 1-5 scale, please rate how often you demonstrate the following values and attitudes in IPC activities with healthcare partners.**

1 - Never = 0-19% of the time;
2 - Rarely = 20-39% of the time;
3 - Sometimes = 40-59% of the time;
4 - Often = 60-79% of the time;
5 - Always = 80-100% of the time

	1 - Never	2 - Rarely	3 - Sometimes	4 - Often	5 - Always
I struggle to gain buy-in from healthcare staff to engage in IPC activities.	○	○	○	○	○
I create partnerships to maintain my own knowledge of IPC.	○	○	○	○	○
I leverage current connections to make new connections.	○	○	○	○	○

Cardea engaged public health nurses and HAI coordinators through key informant interviews

Informed by the literature scan and to complement the survey, Cardea and NNPHI developed a semi-structured interview guide for engaging public health nurses and State HAI Coordinators who support community partners engaged in IPC.

Key informant interviews allowed Cardea to dive deeply into training needs of PHNs engaged in IPC activities. Cardea invited interviewees to describe the essential skills and attitudes most relevant and influential to successes and challenges in their daily IPC work. Interviewees were invited through listservs and direct outreach and offered a choice of a $100 gift card or a selection of IPC textbooks as compensation.

Interview reach & analysis

- Conducted 11 interviews with PHNs and HAI Coordinators across 4 states and 1 territory
- With consent, conversations were recorded and transcribed.
- Applied thematic content analysis to identify themes and synthesize key findings

Recruiting public health nurses to participate in conversations was a challenge

Despite outreach through popular listservs and direct outreach to experts and PHNs identified by the NNPHI team, Cardea encountered challenges with recruiting participants. Several potential interviewees shared that they did not identify as a PHN and did not feel comfortable participating in a conversation focused on PHN training needs. In addition, a handful of PHNs scheduled a conversation, but needed to cancel the interview due to limited staff capacity within their local health department and lack of staff coverage during the interview time. Consequently, the views expressed by interviewees are limited and do not represent the diversity of PHN experience throughout the US and its territories.

Recruitment challenges

- Not identifying as a public health nurse
- Limited staff capacity and bandwidth

The assessment methodology supported our understanding of training needs and preferences of public health nurses engaged in IPC

The sections that follow present brief findings from the survey and interviews by area. Conclusions and recommendations for training design follow these brief findings.

The Appendix provides more robust analyses for deeper understanding.

Photo: Adobe Stock Collection

Essential Skills

Four essential skills for public health nurses include communication, emotional intelligence, problem solving, and situational awareness.

Photo: TONL

The assessment team defined four essential skill areas for public health nurses

Communication	Emotional intelligence
Effective communication includes active listening, navigating difficult conversations, providing feedback, and tailoring communication to a variety of audiences. PHNs use effective communication to engage with a variety of audiences, communicate persuasively to illustrate the value of proactively engaging on IPC issues, and provide critical feedback while maintaining positive relationships.	Emotional intelligence is self-awareness and ability to manage the emotions of self and others towards effective partnerships. It includes having social skills, an empathic approach to people, and being able to inspire, influence, and develop others. PHNs with high emotional intelligence can recognize their own emotions and those of others, use emotional information to guide thinking and behavior, discern between feelings, and adjust emotions to adapt to environments.
Problem solving	**Situational awareness**
Problem solving is the ability to use rigorous logic and methods to solve difficult problems with effective solutions, seeking guidance as appropriate; probes all reasonable sources for answers; can anticipate commonly unforeseen problems; and looks beyond the obvious and does not stop at the first answers.	Situational awareness allows for reflection on context and how behaviors, words, and actions may affect others. PHNs with situational awareness take steps to communicate and mitigate issues that might arise and take responsibility for how actions or inactions impact partners.

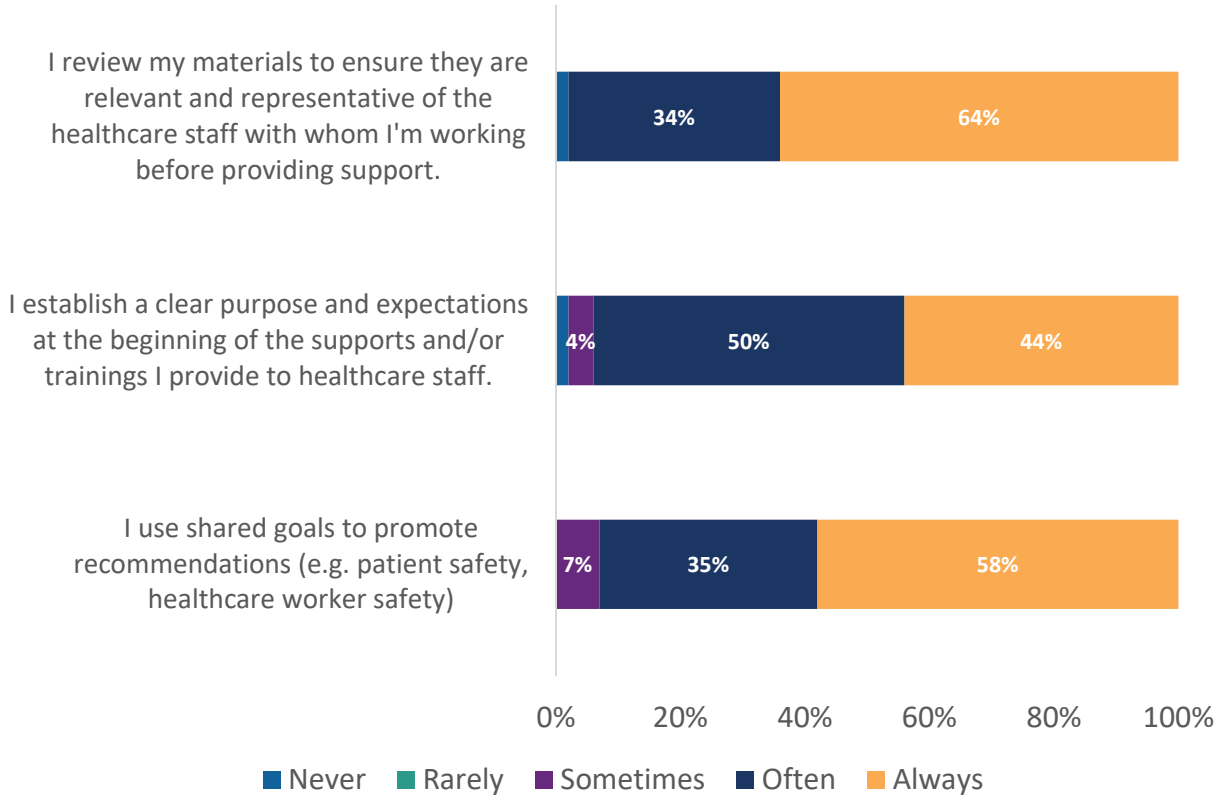
Respondents rated all four essential skills as extremely important

Scores could range from 1 (not at all important) to 5 (extremely important).

Respondents rated all four essential skills as extremely important, ranging from an average of 4.6 to 4.9. The average score for importance of situational awareness was significantly different for those working in at least one non-clinical setting (Non-clinical setting: 4.8, all else: 5.0; p = .007) and working in at least one rural/tribal setting (Rural/Tribal: 4.8, All else: 5.0, p=.006). The average score for importance of emotional intelligence was significantly different by education (Bachelor's degree or less: 4.7, Advanced degree: 4.3, p = .034).

See Appendix for more results by demographic groups.

Most respondents use strong communication skills in their IPC work with partners

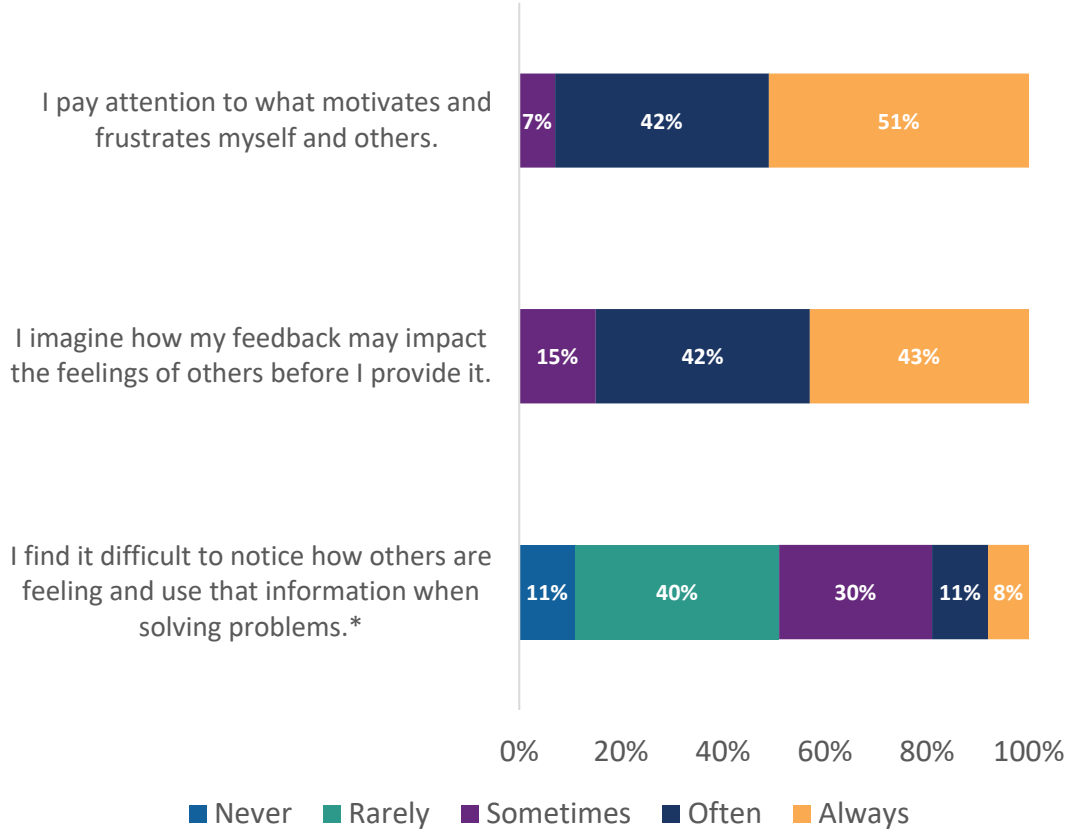


Most respondents shared that they 'often' or 'always' used these communication practices when working on IPC activities with partners.

The overall average score for all three communication related domain statements was 4.5. This overall average score was not significantly different across demographic groups.

See Appendix for more results by demographic groups.

Most respondents can manage their feelings and others in their IPC work with partners



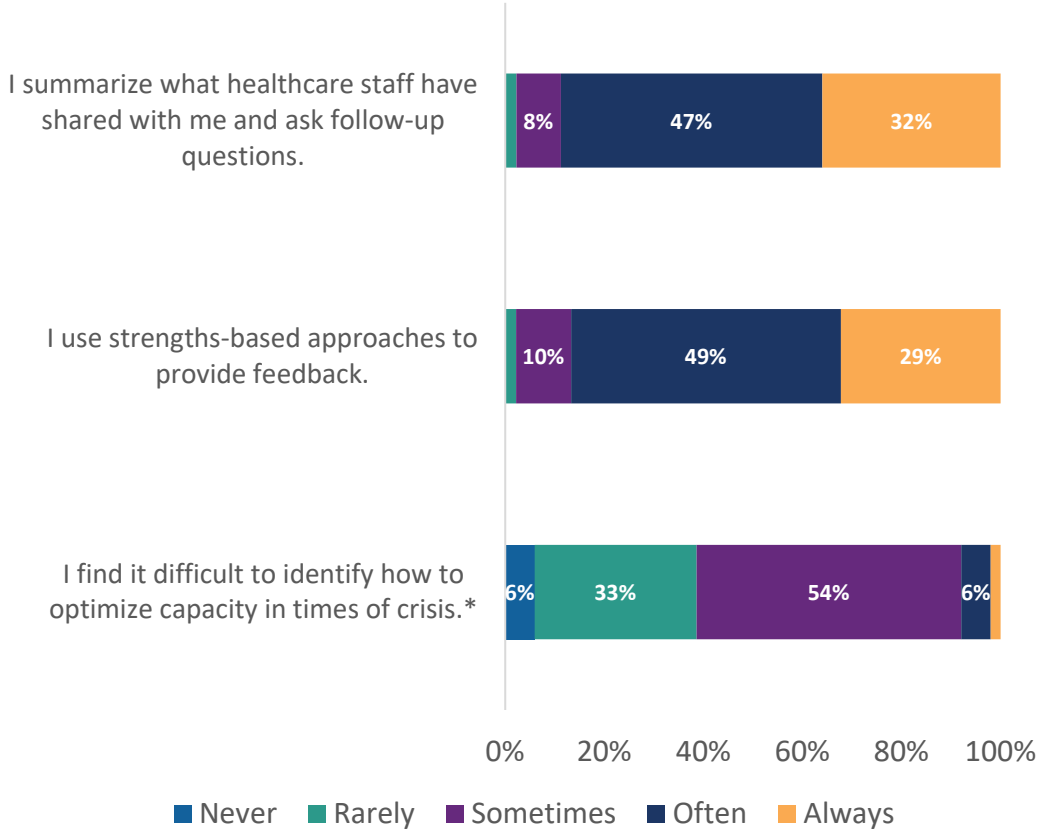
*inversely worded statement

Most respondents shared that they 'often' or 'always' used these emotional intelligence practices when working on IPC activities with partners.

The overall average score for all three emotional intelligence related domain statements was 4.0. This overall average score was not significantly different across demographic groups.

See Appendix for more results by demographic groups.

Most respondents leverage their problem-solving skills in their IPC work with partners



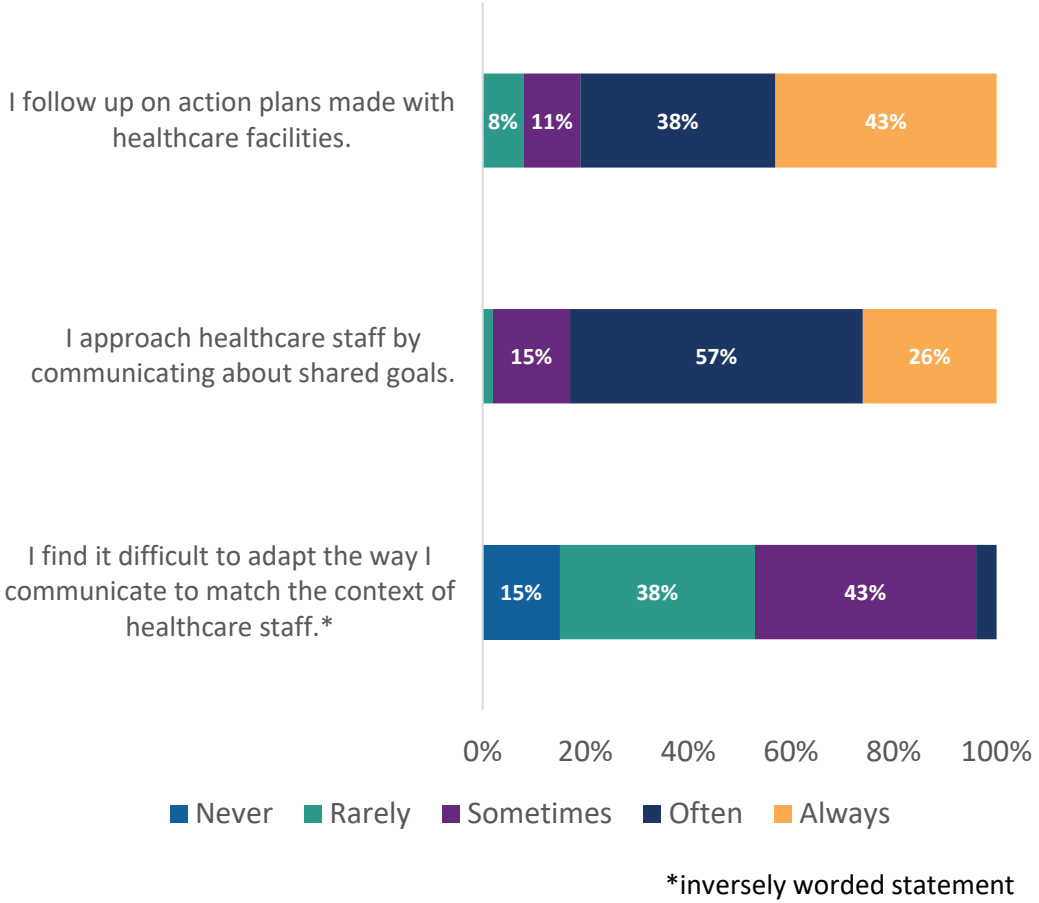
*inversely worded statement

Most respondents shared that they 'often' or 'always' used these problem solving practices when working on IPC activities with partners.

The overall average score for all three problem solving related domain statements was 3.9. This overall average score was not significantly different across demographic groups.

See Appendix for more results by demographic groups.

Most respondents practice strong situational awareness in their IPC work with partners



*inversely worded statement

Most respondents shared that they 'often' or 'always' used these situational awareness practices when working on IPC activities with partners.

The overall average score for all three situational awareness related domain statements was 3.9. This overall average score was not significantly different across demographic groups.

See Appendix for more results by demographic groups.

Across conversations, interviewees described communication, emotional intelligence, and problem solving as key strengths, noting these skills frequently support engaging community partners around IPC

Most interviewees said they were strong in all areas of the essential skills. Most frequently, interviewees elevated communication, emotional intelligence, and problem solving as areas of strength and skills that play a critical role in successfully engaging community partners around IPC. Some interviewees also noted challenges with communication when community partners perceive their role as regulatory and punitive rather than collaborative. Some interviewees identified situational awareness as an area for improvement, noting staff often need more time to fully understand the constraints community partners face when providing guidance in a new environmental context.

> *The first [strength that] comes to my mind [is] communication…that's one of the skills and goals that we check on the evaluations. To have good communication skills [like] effective listening, providing good feedback, and reassuring that that message got transmitted [and understood.]…And maintaining positive relationship with the community. That's a big [one] because the community [is] looking at the Public Health Office as a resource for a lot of things.*
>
> Interviewee

Some interviewees recognized situational awareness as an area of growth for PHNs

> *I think something that I did recognize with some of the other staff members was like situational awareness was an opportunity for improvement where we were going into these environments that we've really not gone into before, like an adult family home or a homeless shelter or you know something like that…And I think we could have done a better job at using situational awareness, you know, instead of just going in and laying down some blanket measures that we wanted them to implement, not taking into consideration that wow! They have a lack of resources. They cannot go out tonight and buy 5,000 face shields for everybody…or something like that.*

Interviewee

Essential Attitudes

The four essential attitudes for public health nurses include community building, networking, and teamwork; diversity and inclusion; openness to learn; and self-efficacy.

Photo: Adobe Stock Collection

The assessment team defined four essential attitude areas for public health nurses

Community building, networking, and teamwork	Diversity and inclusion
Involve forming and sustaining trusting connections that foster meaningful collaboration. PHNs demonstrate this community, building, networking, and teamwork by establishing and upholding safety, consistency, and trust in partnerships by prioritizing transparent and responsive communication and support.	Involve working effectively with people from diverse backgrounds and demonstrating a commitment to fairness and full participation. For PHNs, this means responding respectfully and effectively to individuals of all abilities, cultures, classes, races, ethnic backgrounds, genders, sexual orientations, and faiths, recognizing and affirming the worth of each person, family, tribe, and community while preserving their dignity.
Openness to learn	**Self efficacy**
Includes an individual's ability and willingness to consider ideas and opinions that are new or different from their own, enabling change or growth. Openness to learn allows PHNs to add new skills to their work and use updates in information from policies or partners to effectively change tactics when needed.	Self-efficacy refers to an individual's belief in their capacity to execute behaviors necessary to achieve goals or performance objectives. PHNs with high self-efficacy feel confident in their knowledge and skills and can make informed decisions independently.

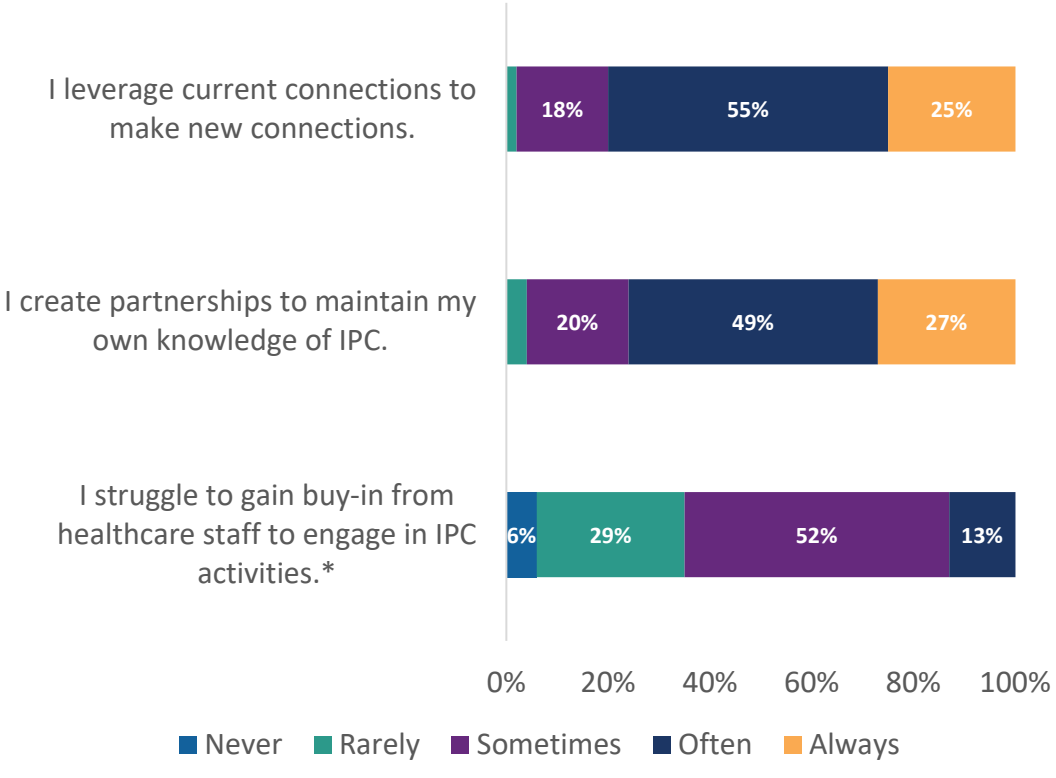
Respondents rated all four essential attitudes as extremely important

Scores could range from 1 (not at all important) to 5 (extremely important).

Respondents rated all four essential attitudes as extremely important with average scores ranging from 4.7 to 4.8. The average scores for the importance of diversity and inclusion (Non-clinical setting: 4.7; All else: 5.0; p = .002) and openness to learn (Non-clinical setting: 4.8; All else: 5.0; p = .018) were significantly different for those working in at least one non-clinical setting.

See Appendix for more results by demographic groups.

Most respondents use strong community building and networking practices in their IPC work with partners



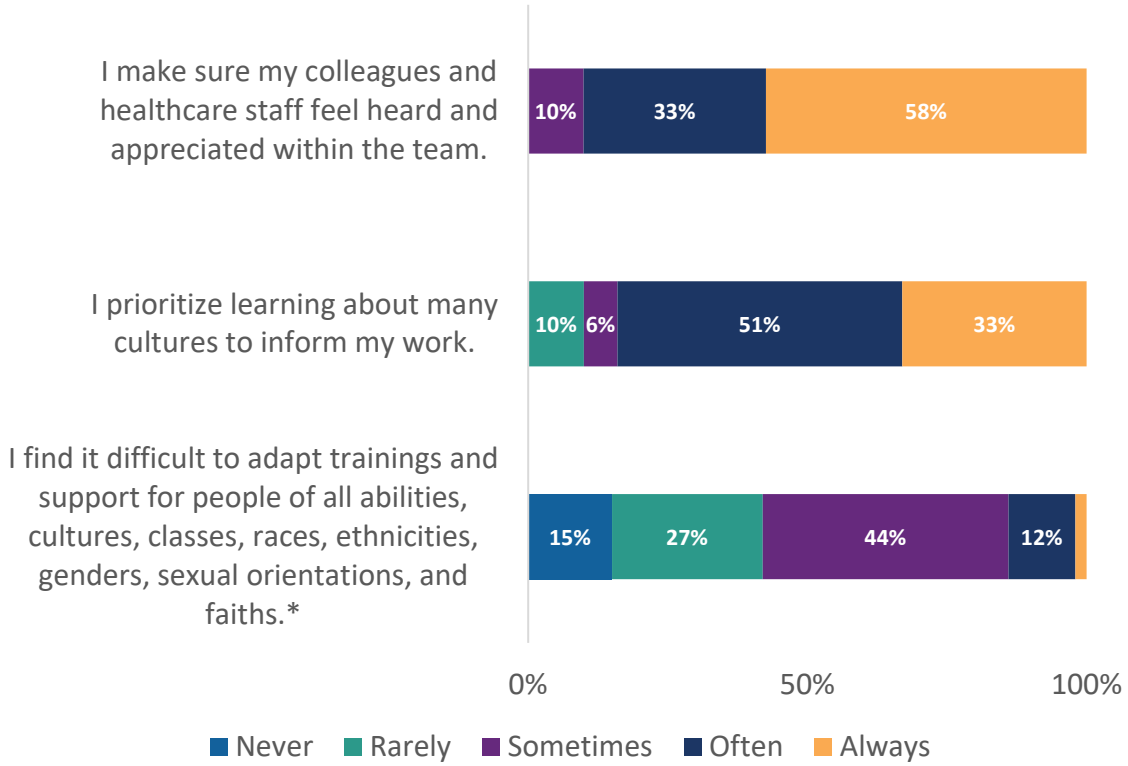
*inversely worded statement

Most respondents shared that they 'often' or 'always' used these community building, networking, and teamwork practices when working on IPC activities with partners.

The overall average score for all three community building, networking, and teamwork related domain statements was 3.7. This overall average score was not significantly different across demographic groups.

See Appendix for more results by demographic groups.

Most respondents incorporate diversity and inclusion values into their IPC work with partners and colleagues



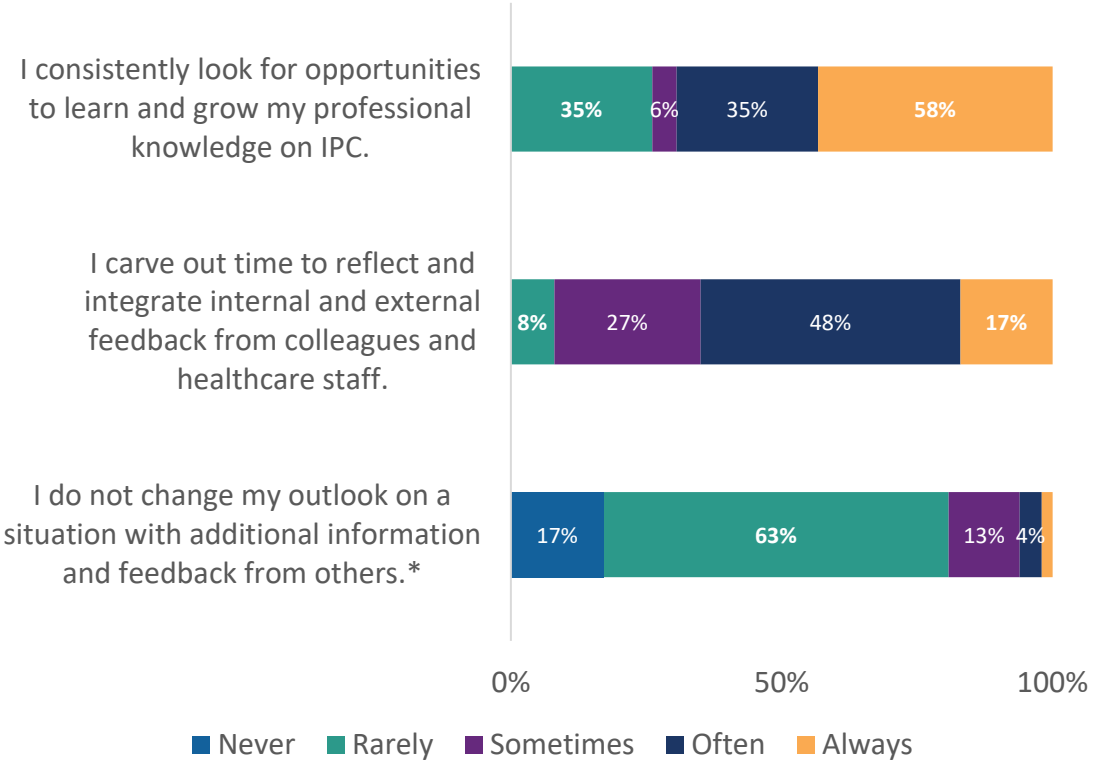
*inversely worded statement

Most respondents shared that they 'often' or 'always' incorporate diversity and inclusion when working on IPC activities with colleagues and partners.

The overall average score for all three diversity and inclusion related domain statements was 3.9. This overall average score was not significantly different across demographic groups.

See Appendix for more results by demographic groups.

Most respondents are open to learn as they perform their IPC work with partners and colleagues



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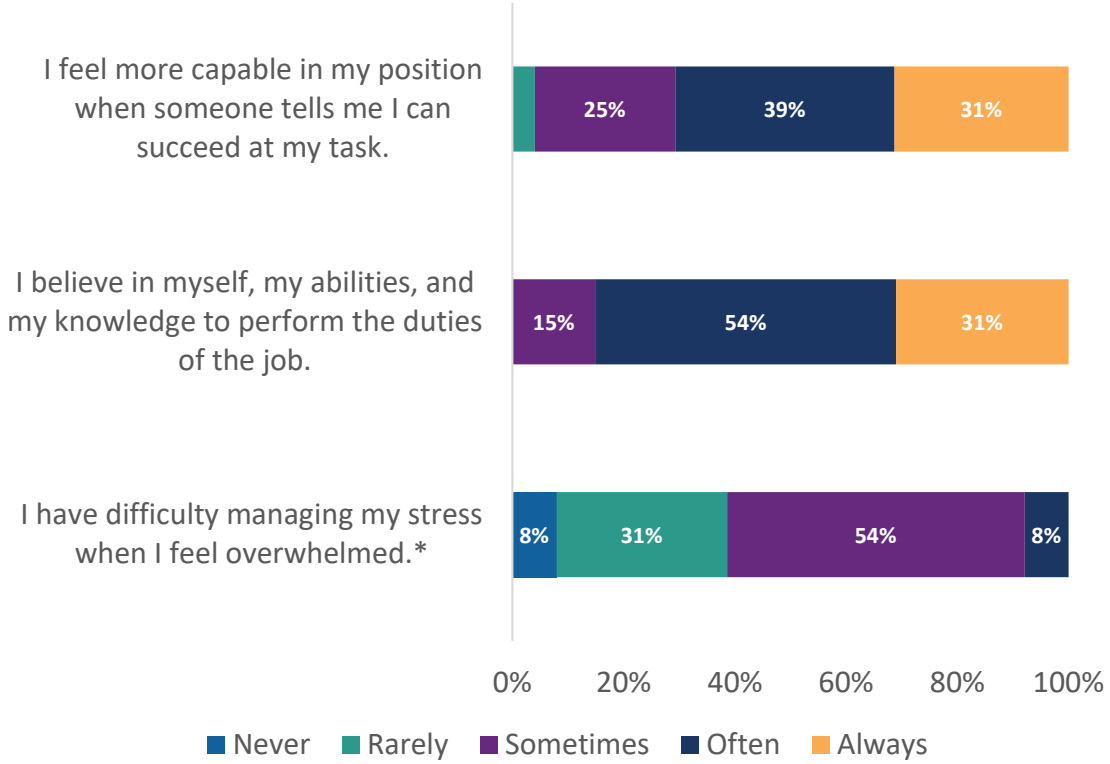
Most respondents shared that they 'often' or 'always' engage in practices that support an openness to learn when working on IPC activities with colleagues and partners.

The overall average score for all three openness to learn related domain statements was 4.0. This overall average score was not significantly different across demographic groups.

See Appendix for more results by demographic groups.

Most respondents are confident in themselves as they perform their IPC work with partners and colleagues



*inversely worded statement

Most respondents shared that they 'often' or 'always' feel a strong sense of self-efficacy when working on IPC activities with colleagues and partners.

The overall average score for all three self-efficacy related domain statements was 3.8. This overall average score was not significantly different across demographic groups.

See Appendix for more results by demographic groups.

Across conversations, interviewees reported community building and openness to learn as strong essential attitudes and identified diversity and inclusion and self-efficacy as areas for improvement

Most interviewees described robust attitudes related to community building, networking and teamwork as well as openness to learn. Interviewees noted relationships with community partners were a critical factor in their ability to navigate complex situations with IPC and steer partners toward safer policies and practices. In addition, interviewees noted the work of PHNs engaged in IPC demands an openness to learn to keep up with the rapid changes in the field and quickly learn new best practices. While interviewees valued diversity and inclusion, many found they encountered institutional barriers to success. Similarly, some interviewees thought self-efficacy was an area that could be strengthened.

> *Openness to learn. Yeah, we do that every day. Trying to keep staff up to date, we try to get folks out to professional conferences at least once a year...Attending federal meetings. "Oh, look what that state did! That's interesting. Could we do that here and make it work?" And you know, just any place we can try to come up with different approaches and learn different things...Nobody's been resistant to expanding their horizons.*

Interviewee

Community building is essential for success with IPC

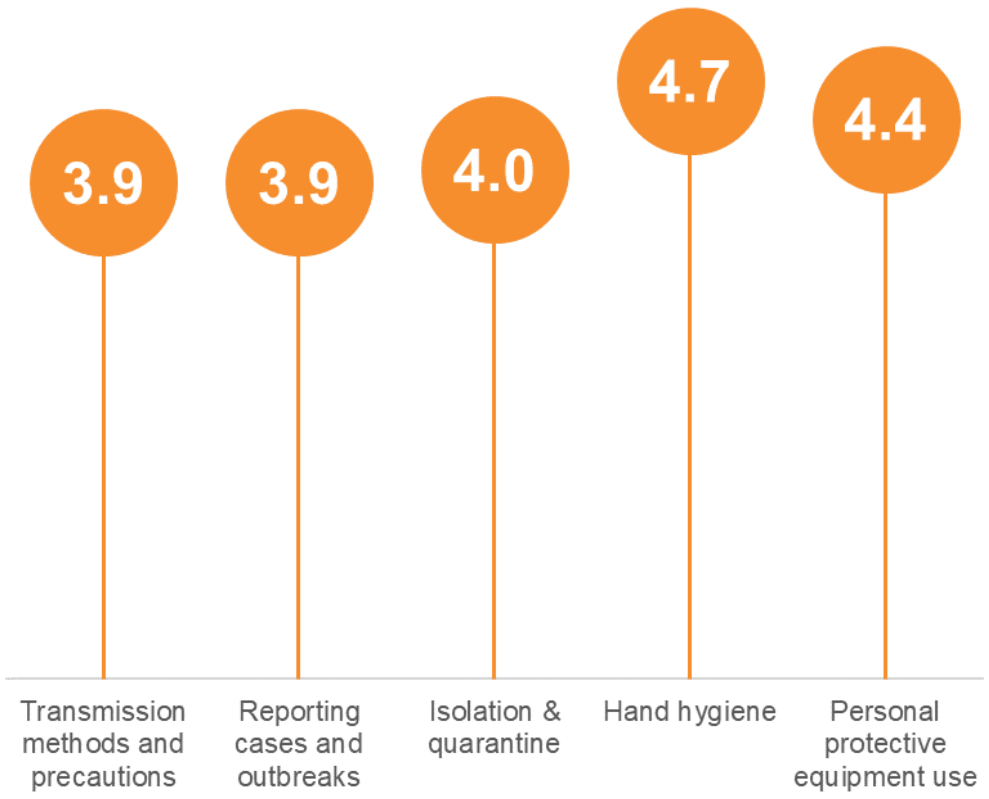
I think one of the most important skills or maybe it's a value, is to see your community partners as partners...it almost doesn't matter what the problem or the issue or condition is. The community partner has to agree that it's a priority, and you have to work together to make a difference. And so that requires a level of respect, open communication, actively listening to what the other person or...community group are saying, so you can come up with mutually agreed upon goals and objectives and...get consensus around the direction that you want to move forward...If you don't have community engagement, involvement, and support, it's not going to be successful. So you have to value their perspective and opinion, and you have to really hear that and not try to steamroll them and convince them that you're right, and that your priorities should be their priorities. It really has to be a true partnership.

Interviewee

IPC Knowledge

The primary knowledge focus areas for IPC include transmission methods and precautions, reporting cases and outbreaks, isolation and quarantine, hand hygiene, and personal protective equipment use.

Most respondents were very or extremely confident in their IPC knowledge

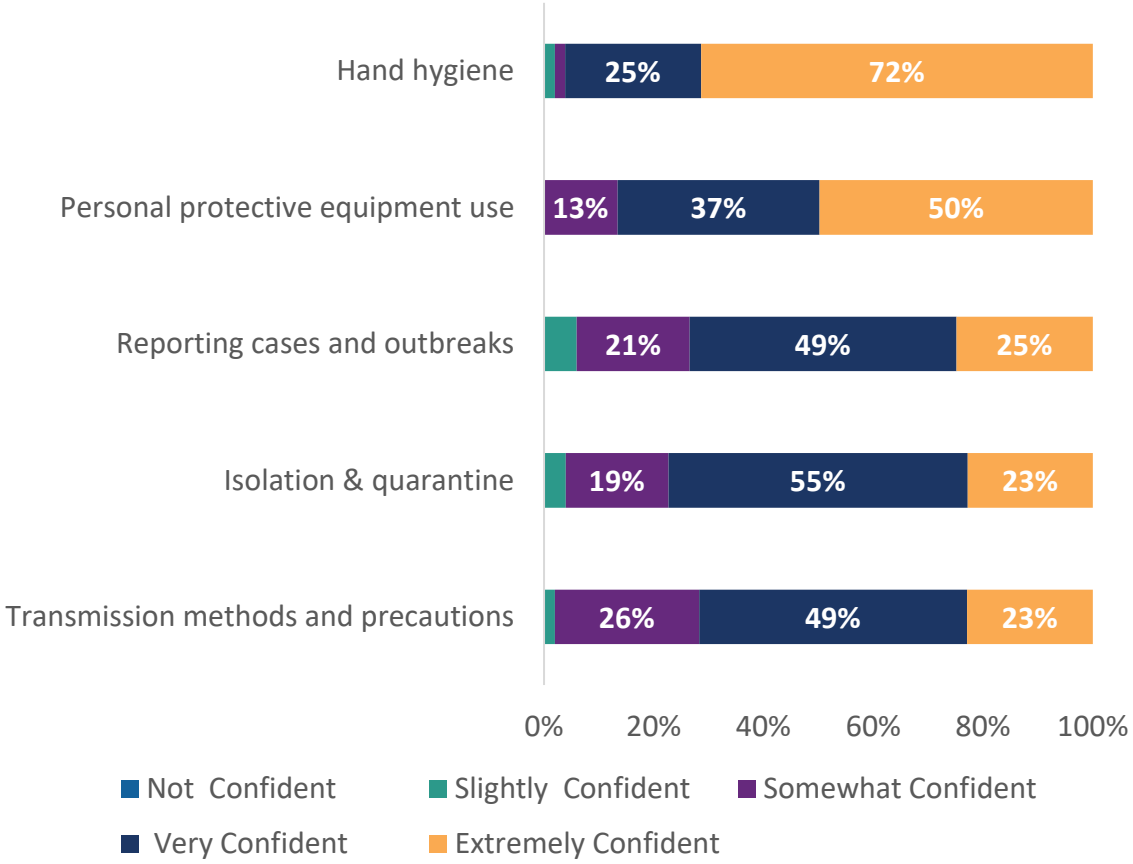


Scores could range from 1 (not at all important) to 5 (extremely important).

Respondents rated themselves as very confident across all IPC knowledge domains, with average scores ranging from 3.9 to 4.7. The average score for personal protective equipment use was significantly different for individuals working in at least one non-clinical setting (Non-clinical setting: 4.3; All else: 4.9; p = <.001). The average score for reporting cases and outbreaks was significantly different by years of PHN experience (0 -5 years: 3.7, 6^{+} years: 4.2, p=.017).

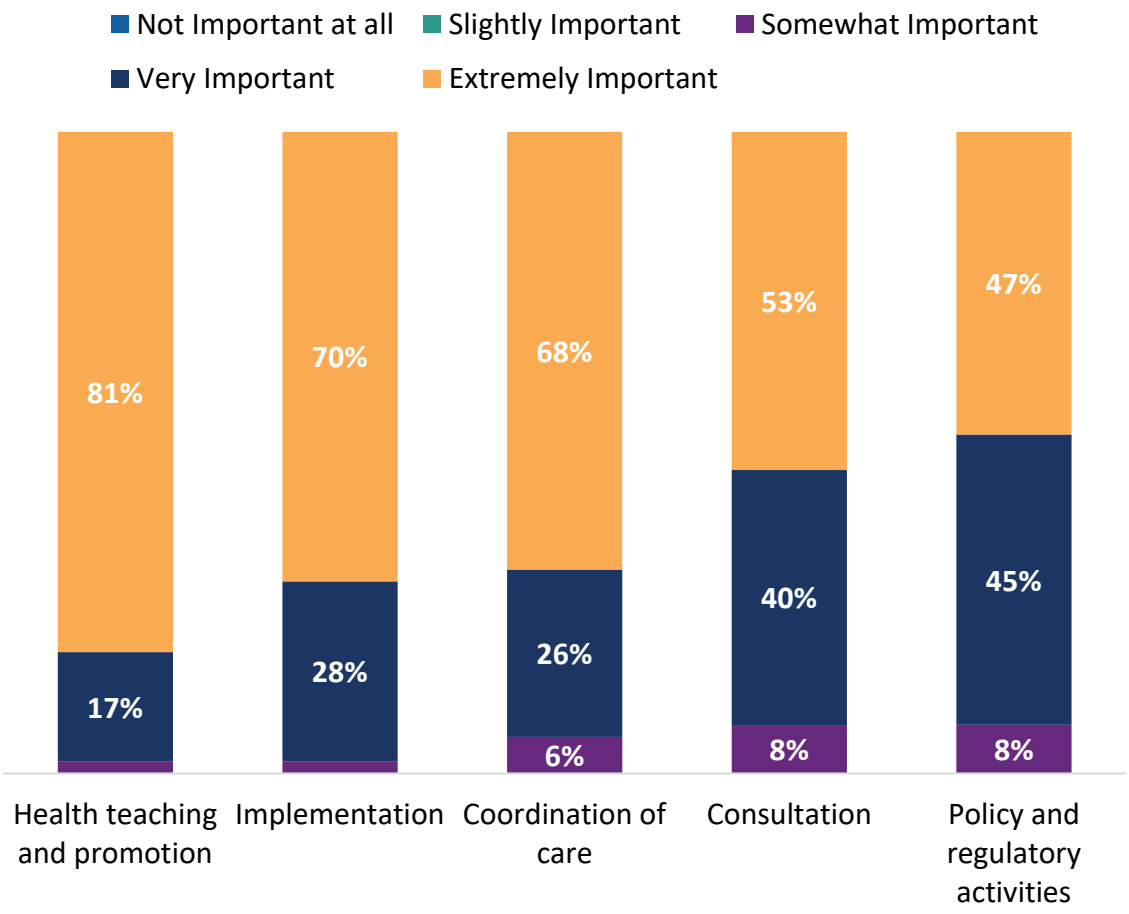
Most respondents feel very or extremely confident in their IPC knowledge

Most respondents shared that they are ‘very confident’ or ‘extremely confident’ in their IPC knowledge. Respondents were most confident in the focus area of hand hygiene.



Most respondents rated nursing activities to support IPC as very or extremely important

Scores could range from 1 (not at all important) to 5 (extremely important). Over four out five (81%) respondents rated health teaching and promotion as the extremely important whereas less than half (47%) of respondents rated policy and regulatory activities as extremely important.



See Appendix for more results for all nursing activities.

Across conversations, interviewees elevated hand hygiene, transmission methods and precautions, and reporting cases and outbreaks as key areas of IPC knowledge strength

Most interviewees shared they felt confident in their knowledge of hand hygiene, disease transmission, prevention, and containment, as well as epidemiologic methods tied to reporting cases and understanding outbreaks. In discussing their knowledge strengths, some interviewees raised the importance of studying for and obtaining their Certified in Infection Control (CIC) certification. Many interviewees highlighted the challenges of preparing for emerging or novel pathogens and expressed a desire for more robust leadership support from their institutions to facilitate enhanced preparedness plans.

> *Definitely CIC, the certification for infection control, is important...not all of the IPC in [our region have] the certification, and you can see the difference between one [nurse with CIC] and another [without CIC].*

Interviewee

Interviewees want more time and resources to prepare for and learn about emerging infections

When leadership priorities differ from infection control priorities [it's a challenge] and it happens frequently and often. Also, emerging infections…[People say,] "Hey! They're not really here yet, so therefore we're not gonna get ready for them until they arrive." Well, that's a little late for preparation.

Interviewee

Conclusion

Photo: Adobe Stock Collection

Training Modality: Prioritize hybrid instructor-led training

Survey and interview participants shared that they were interested in a combination of in-person and virtual training. Many interviewees noted the benefits of in-person training for relationship building, role-plays, and other skill application. While AI and virtual reality are emerging technologies that show promise, few survey respondents selected these modalities as a top preference, and many interviewees were skeptical of their effectiveness.

81% of survey respondents were interested in hybrid (in-person and virtual) training.

70% of survey respondents were interested in multiple shorter trainings, such as two half days.

Training Frequency: Provide follow-up trainings every 6 months or year

Participants also shared a desire for regular follow-up training opportunities to refresh skills. Participants said high rates of turnover at their agencies means staff need regular access to training opportunities. They suggested short recorded trainings, written materials, or train-the-trainer opportunities, so they could train colleagues and new team members in these essential skills.

98% of survey respondents were interested in follow-up trainings.

Training Topics: Training resources should strengthen a range of essential skills and provide opportunities for connection and relationship building among PHNs

Interviewees shared that they want access to interactive trainings (i.e., role plays, small group discussions, ECHOs, etc.) that will further strengthen their essential skills and attitudes and offer opportunities for leadership development. Interviewees valued training opportunities that could also serve as networking events for them to build connections with more seasoned practitioners and possibly open doors to mentorship. While interviewees generally preferred in-person training options, many highlighted travel costs as a deterrent, particularly for those living in rural areas.

> *ECHOs [are] a great resource of training and hearing what's going on in other communities or areas of the state…How do they handle it? And what are the steps they took to get to meet the goals? Hearing experiences from providers also can help…like I did this and this is what happened, and it worked for me or did not work for me. Sharing those experiences [is] very helpful.*
>
> Interviewee

Additional essential skills trainings would be valuable for the field

> *It seems to me that the default for training leans towards knowledge generation about diseases and epidemiology, which is very helpful. You have to have the knowledge base about measles and understand MMR vaccines in order to be able to intervene in a community, but to me, what's more important, once you have that knowledge, is that you need trainings that focus more on the people skills, interaction, problem solving, communication, active listening. Those soft skills, I think they're sometimes called, are so critical to being successful. My experience has been that many public health nurses [and] public health professionals have not received some of that training or not enough of that training, because, again, most training seems to focus more on knowledge, whatever the current disease threat is, or whatever the current epidemiology is, and not so much on how do we successfully intervene to make a difference?*

Interviewee

Training Accessibility: Training resources should be centralized, easily accessible, and available in multiple languages

Interviewees shared that it would be helpful to have a central resource for state and national information on guidelines, standards, and best practices for IPC. While most were aware of resources offered through APIC, CDC, NACCHO, and SHAE, many shared that it's difficult to find the tools they need. Some interviewees recommended lowering or removing paywalls for essential guidelines and resources to ease accessibility. A few interviewees shared that it would be helpful to offer more written materials and guidelines related to IPC in languages other than English.

> *I like the way the field is evolving in terms of the current resources, the materials that have been developed by CDC's Project Firstline, APIC, and SHAE… [They] are developing better training and educational materials all the time…I think it's sometimes difficult to find them. I sometimes go out making a new PowerPoint deck about whatever topic and I know the information exists, and I can't find the resource. I know it's there, people have talked about it, I've seen it myself, and then trying to actually find it is very challenging.*
>
> Interviewee

Create a variety of training resources so all PHNs engaged in IPC activities can grow their essential skills

Despite relatively high self-assessment and confidence in many of the identified essential skills, attitudes, and IPC practices, PHNs see value in continuing to grow in these areas and providing high-quality training resources for future generations of PHNs working in IPC. Interviewees shared that there are few contemporary PHN training resources available on essential skills and attitudes.

Findings from this assessment suggest that NNPHI has an opportunity to centralize high-quality knowledge-boosting resources and create new resources to enhance the essential skills and attitudes of the PHN workforce through in-person and hybrid, instructor-led events that address a full range of essential skills and attitudes with regular follow-up trainings. To ensure relevance for the diversity of settings in which PHNs engage, creating setting-specific trainings will be helpful.

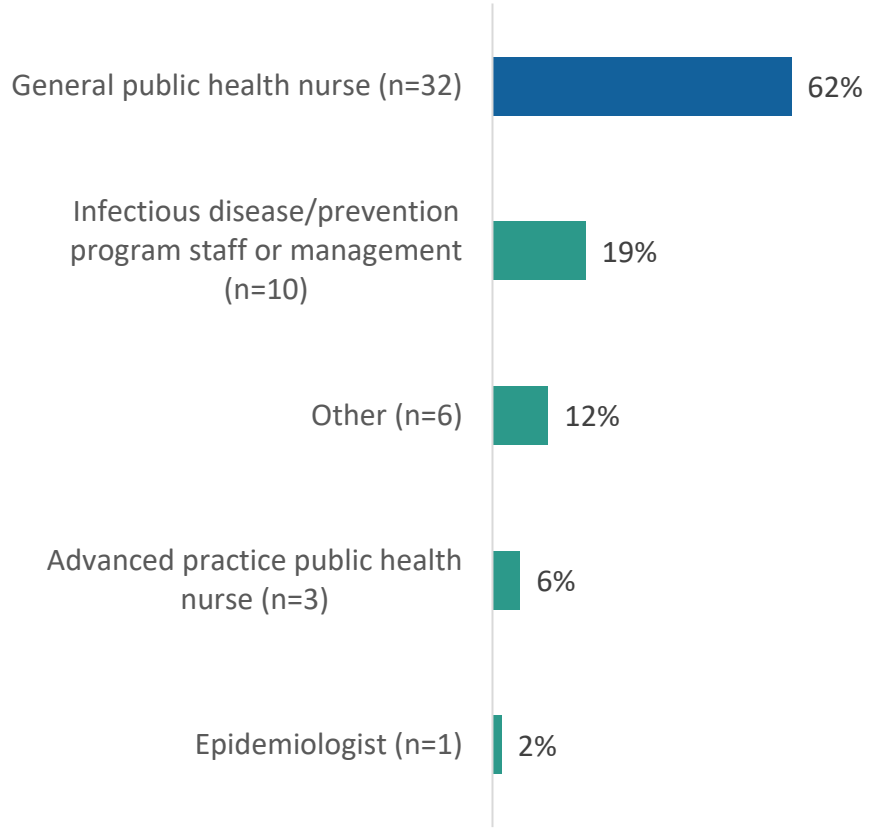
Photo: Gender Spectrum Collection

Appendix

Photo: Adobe Stock Collection

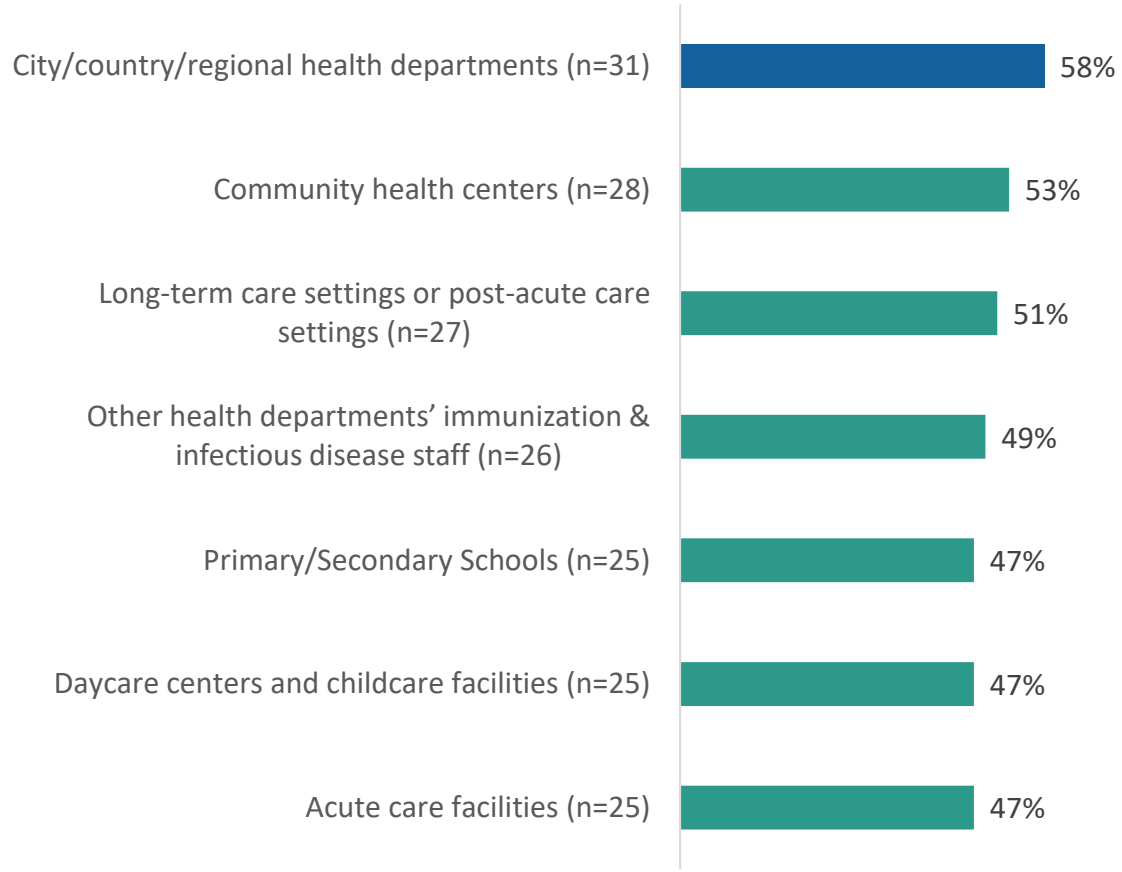
Survey Demographics: Role

Over half (62%) of respondents identified their role as general public health nurse.



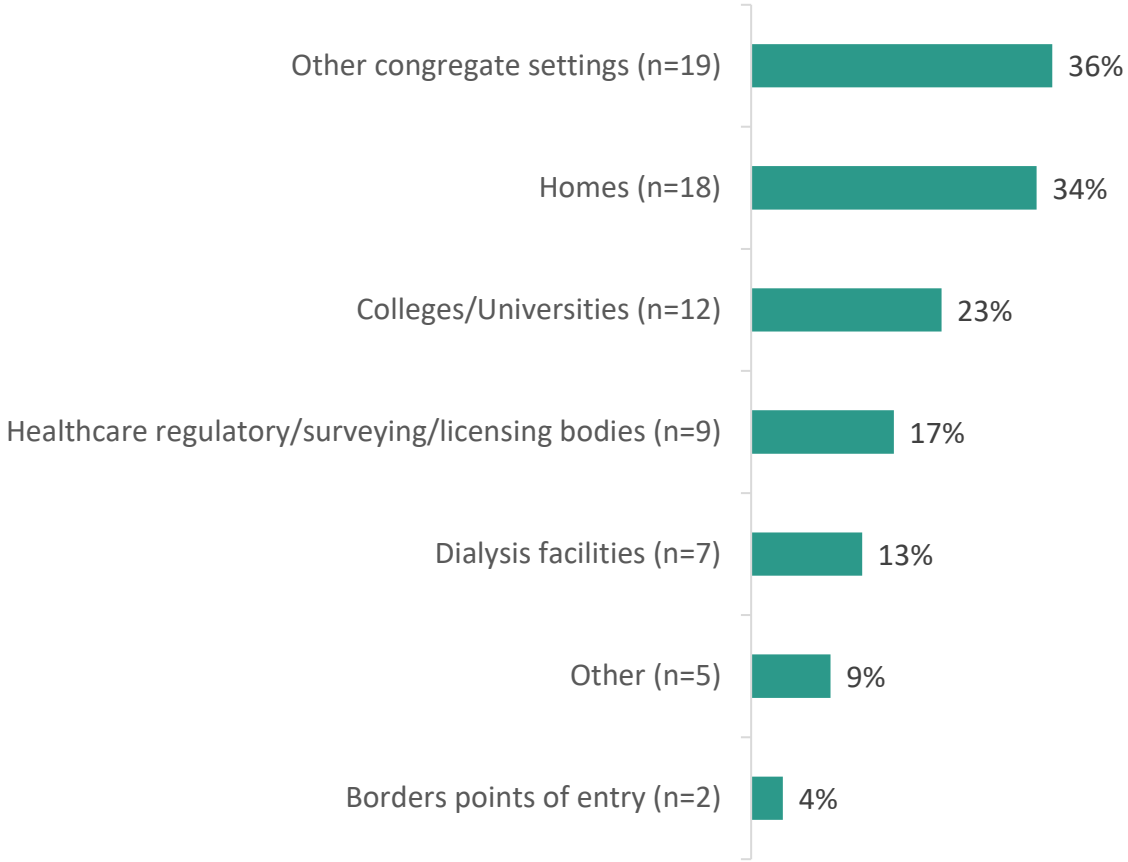
Survey Demographics: Partners with which respondents work

The majority (58%) of respondents worked with city/county/regional health departments. About half of respondents worked in community health centers and long-term care settings.



Survey Demographics: Partners with which respondents work

About one-third (36%) of respondents worked in other congregate settings and less than 5% worked at border points of entry.



Survey Demographics: Disability

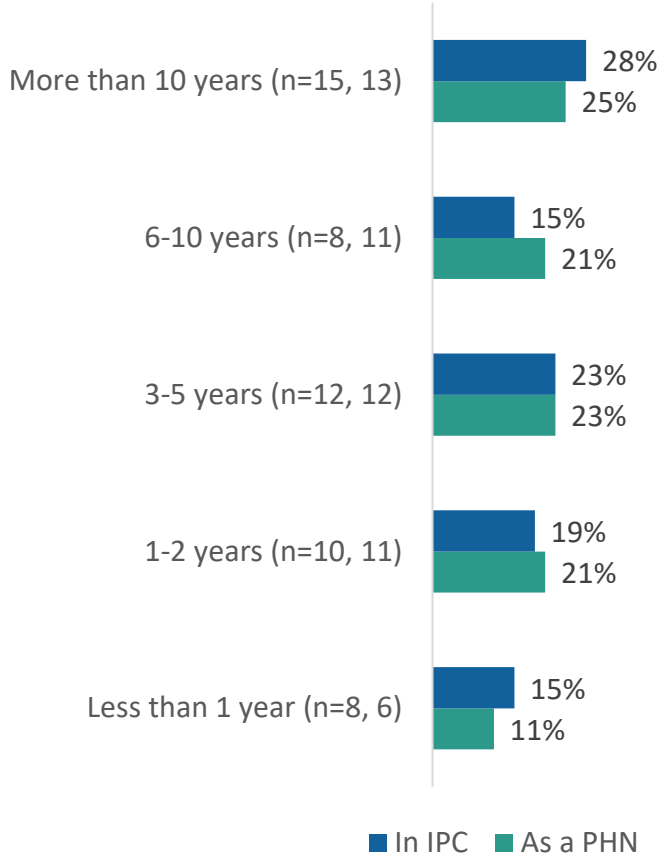
Less than 5 respondents shared that they experience a disability.

Respondents experienced the following disabilities:

- **Ambulatory difficulty** - Having serious difficulty walking or climbing stairs
- **Cognitive difficulty** - Because of a physical, mental, or emotional problem, having difficulty remembering, concentrating, or making decisions
- **Self-care difficulty** - Having difficulty bathing or dressing
- Other Disability Not Listed

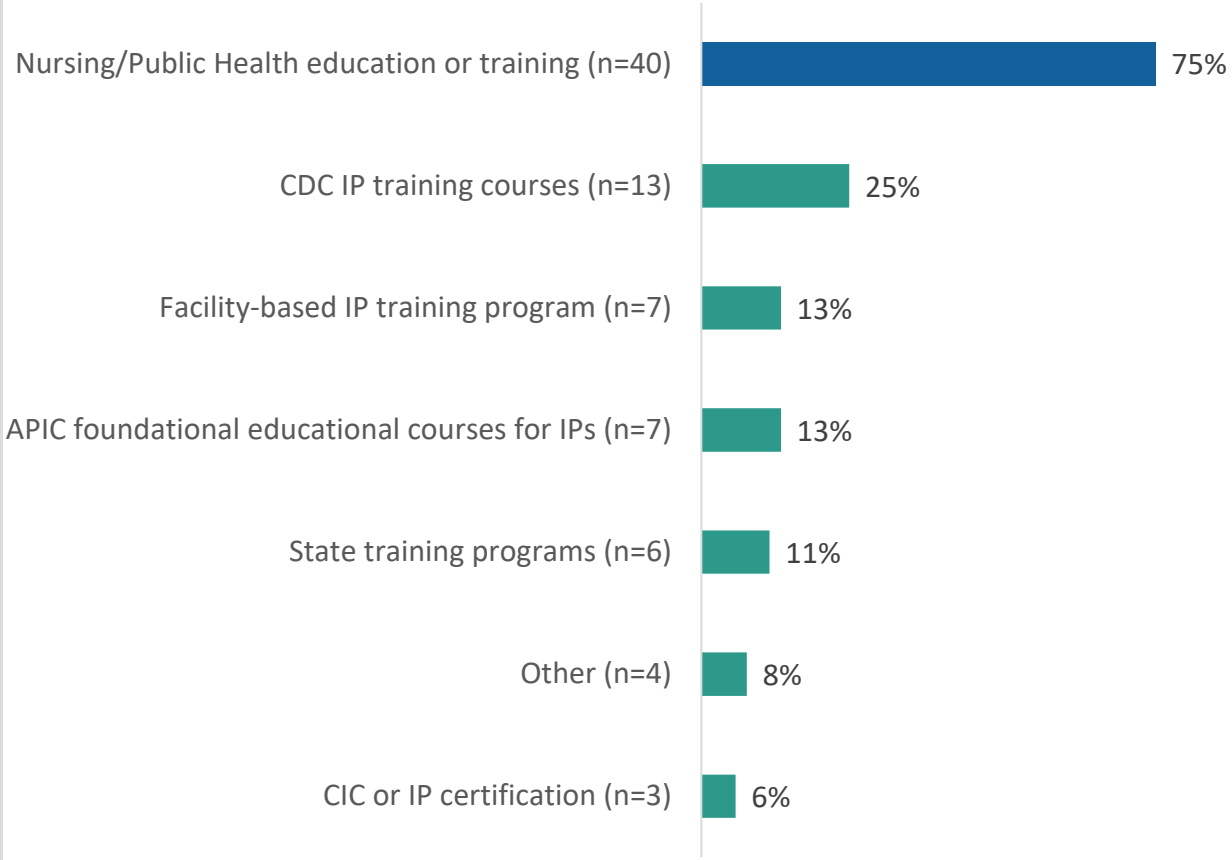
Survey Demographics: Years of experience in IPC and as a PHN

About a quarter of respondents worked in IPC (28%) and as a PHN (25%) for more than 10 years.



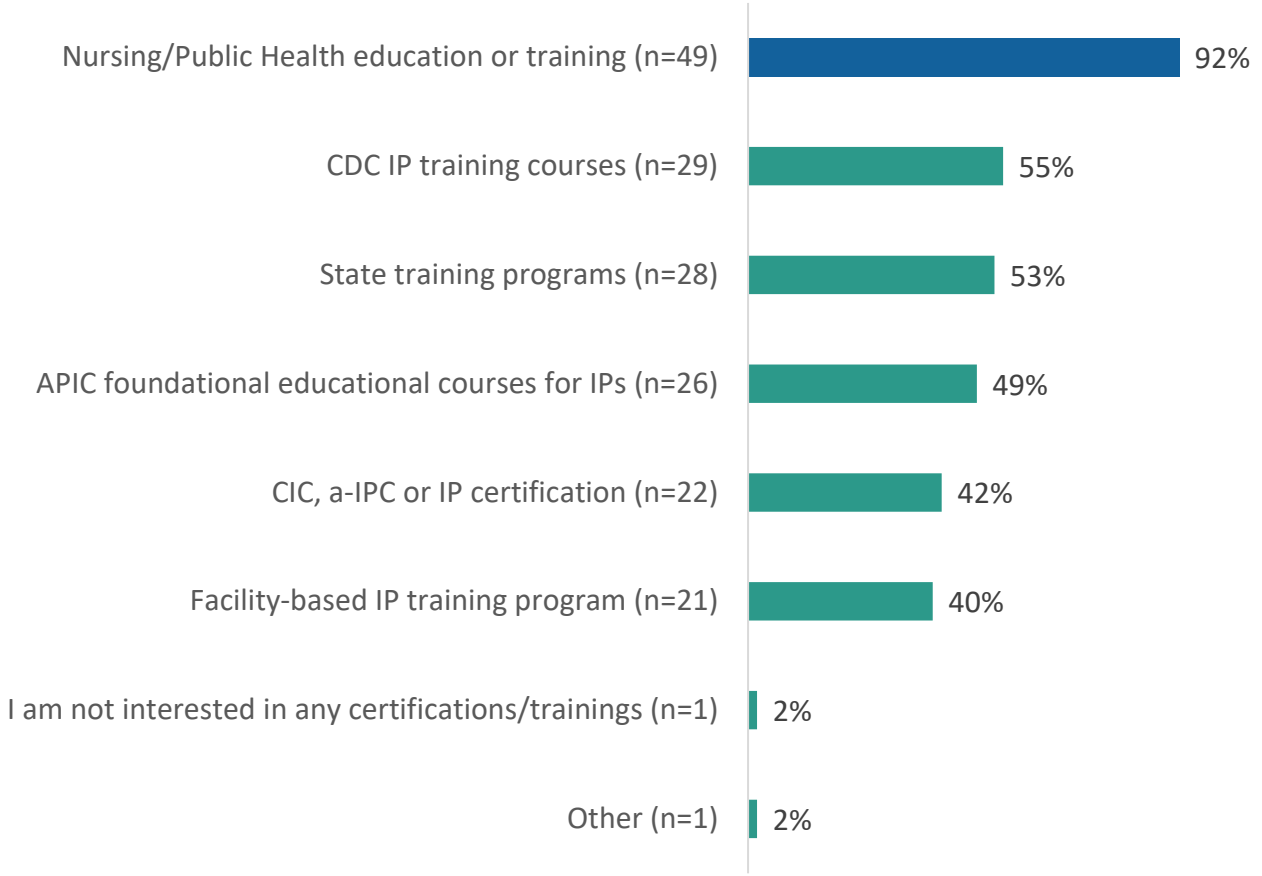
Survey Demographics: Formal trainings or certifications respondents have received

Most (75%) respondents have received nursing or public health training. About a quarter (25%) of respondents have received CDC IP training courses.



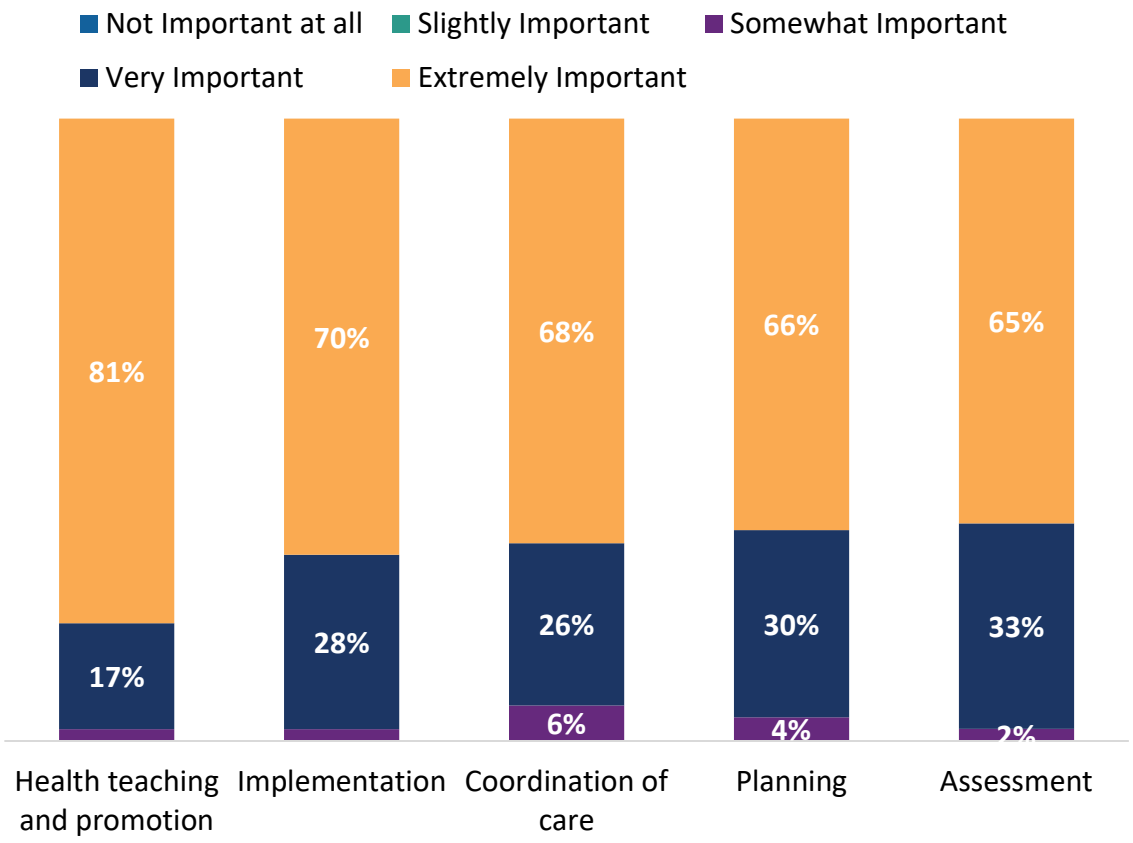
Types of certifications or trainings that respondents are most interested in

Most (92%) respondents reported that they were interested in nursing/public health training, while other trainings such as CDC IP training courses and state training programs were rated as interesting by more than half of respondents.



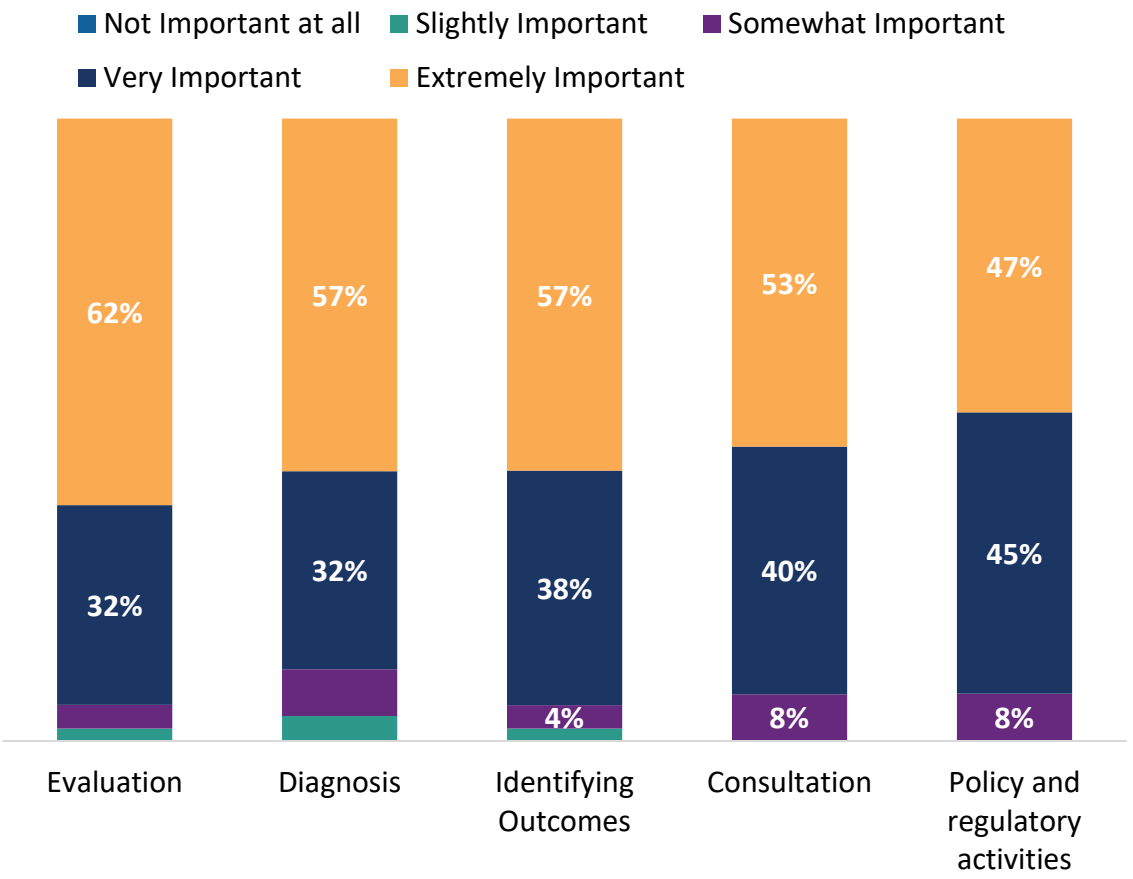
Top five nursing activities in order of importance

Scores could range from 1 (not at all important) to 5 (extremely important). Over four out five (81%) respondents rated health teaching and promotion as the extremely important.



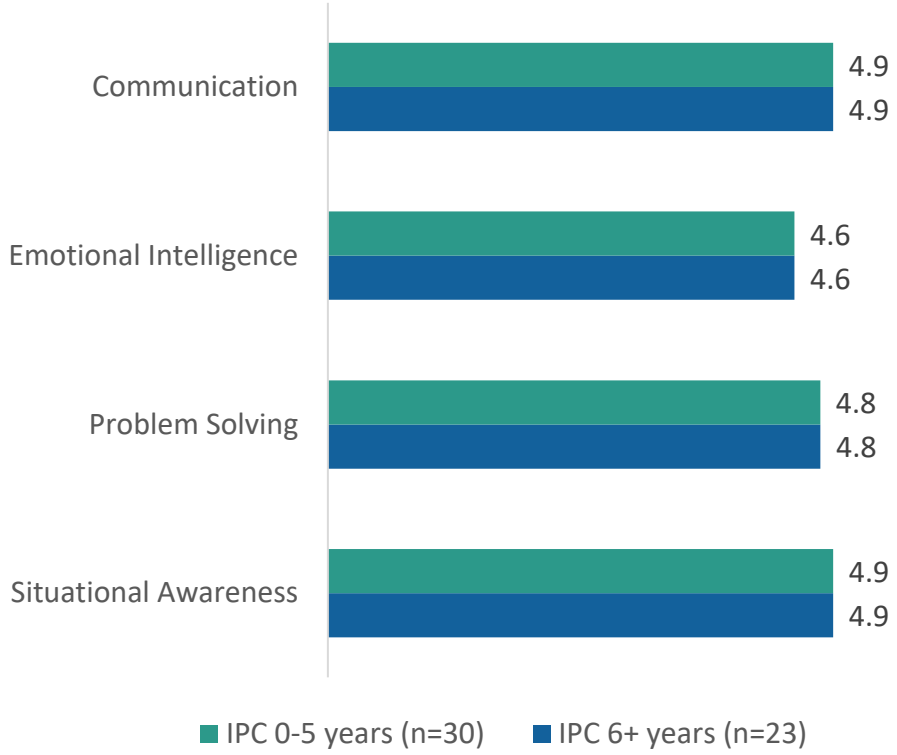
Bottom five nursing activities in order of importance

Scores could range from 1 (not at all important) to 5 (extremely important). Less than half (47%) of respondents rated policy and regulatory activities as extremely important.



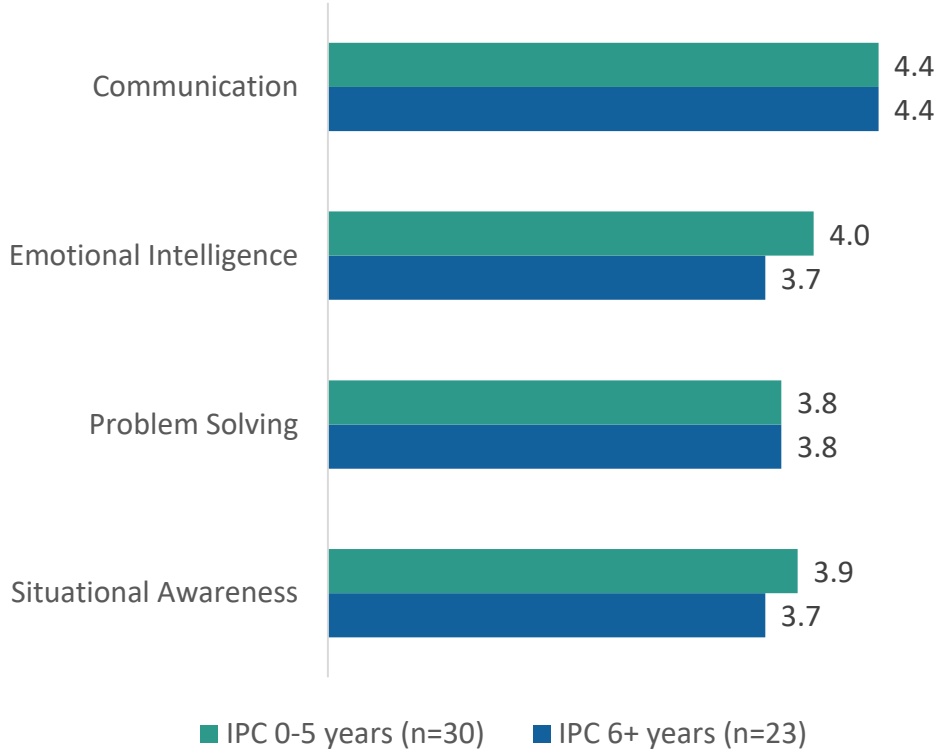
Average self- assessment scores importance of essential skills by essential skills by years of experience supporting IPC

There was no significant difference in average importance scores by years of experience supporting IPC.



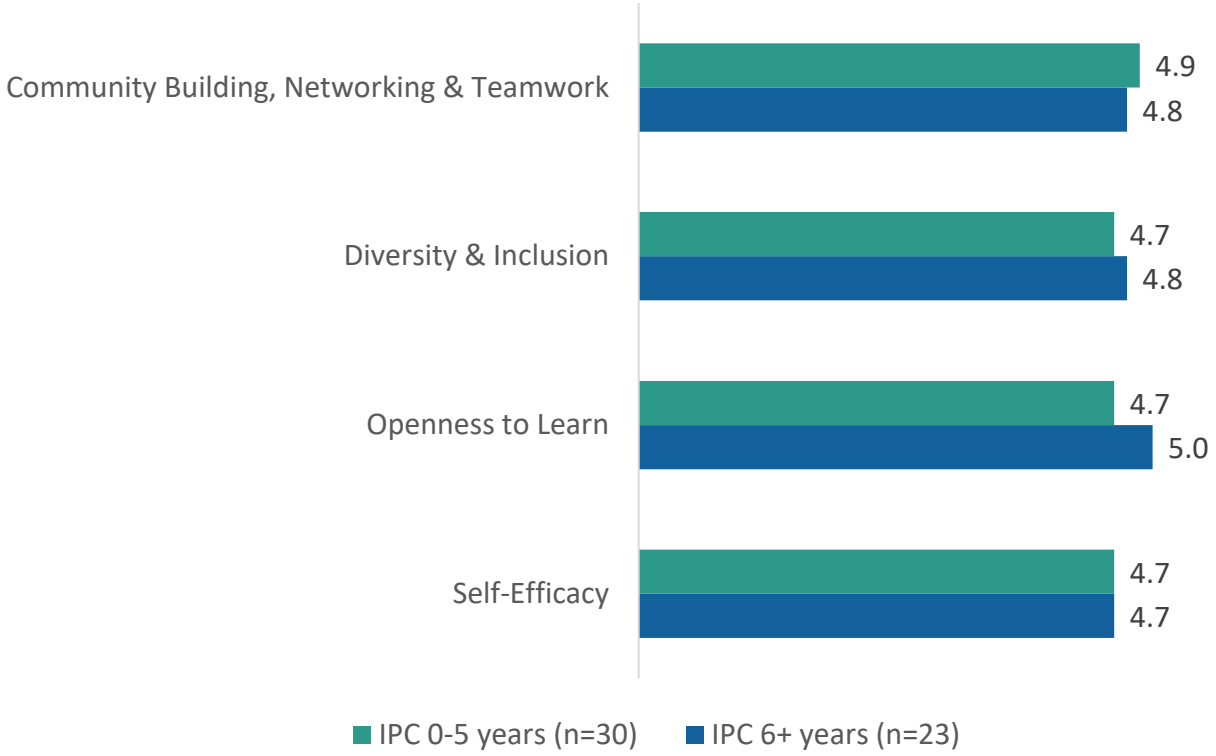
Average scores for domain statements for essential skills by years of experience supporting IPC

There was no significant difference in average essential skill scores by years of experience supporting IPC.



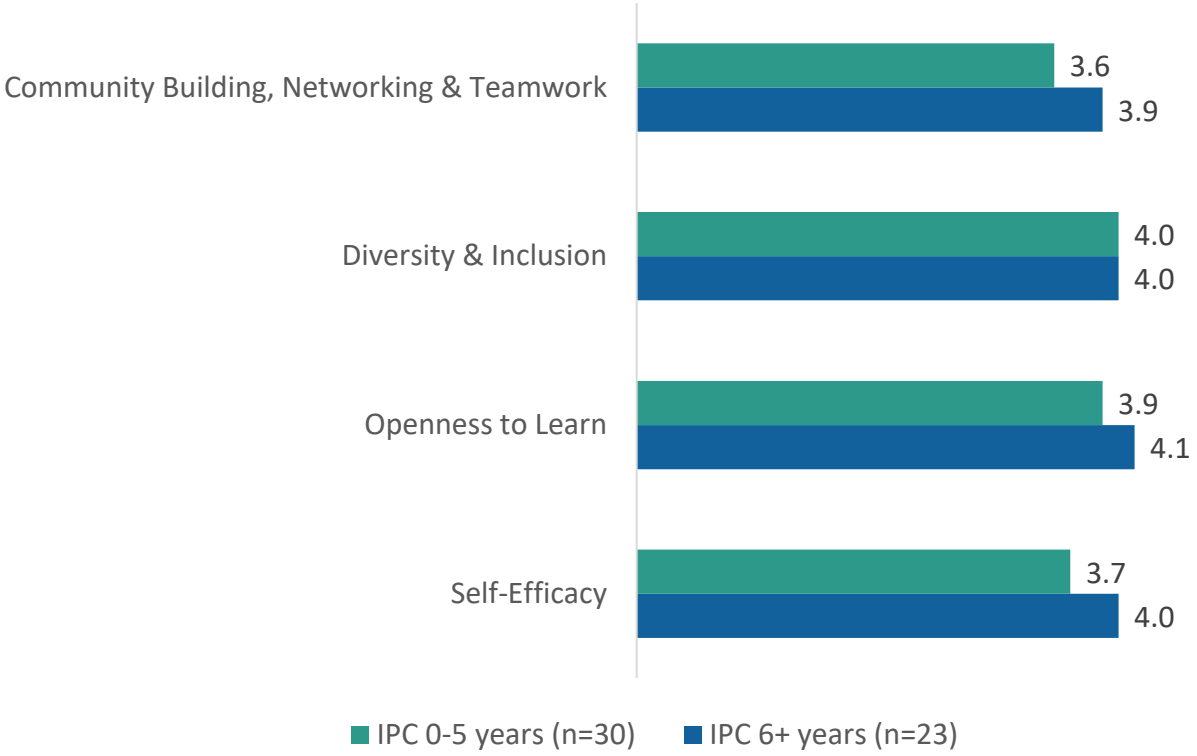
Average self- assessment scores importance of for essential attitudes by years of experience supporting IPC

There was no significant difference in average importance scores by years of experience supporting IPC.



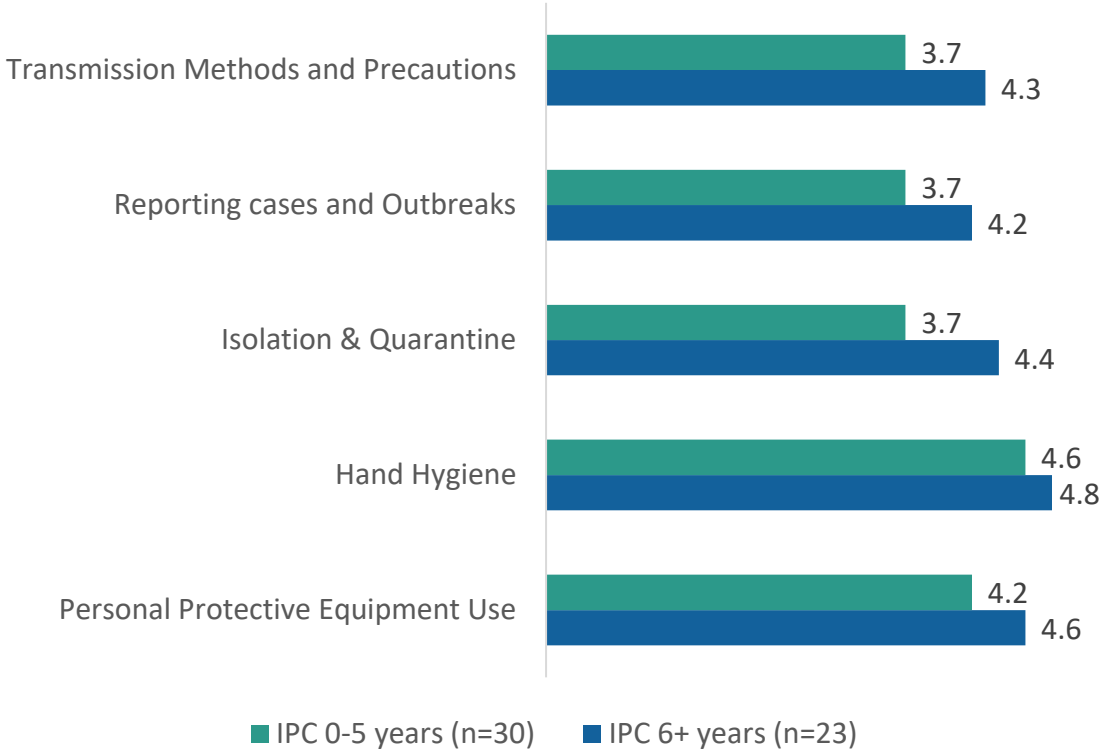
Average scores for domain statements self-assessment for essential attitudes by years of experience supporting IPC

There was no significant difference in average essential attitude scores by years of experience supporting IPC.



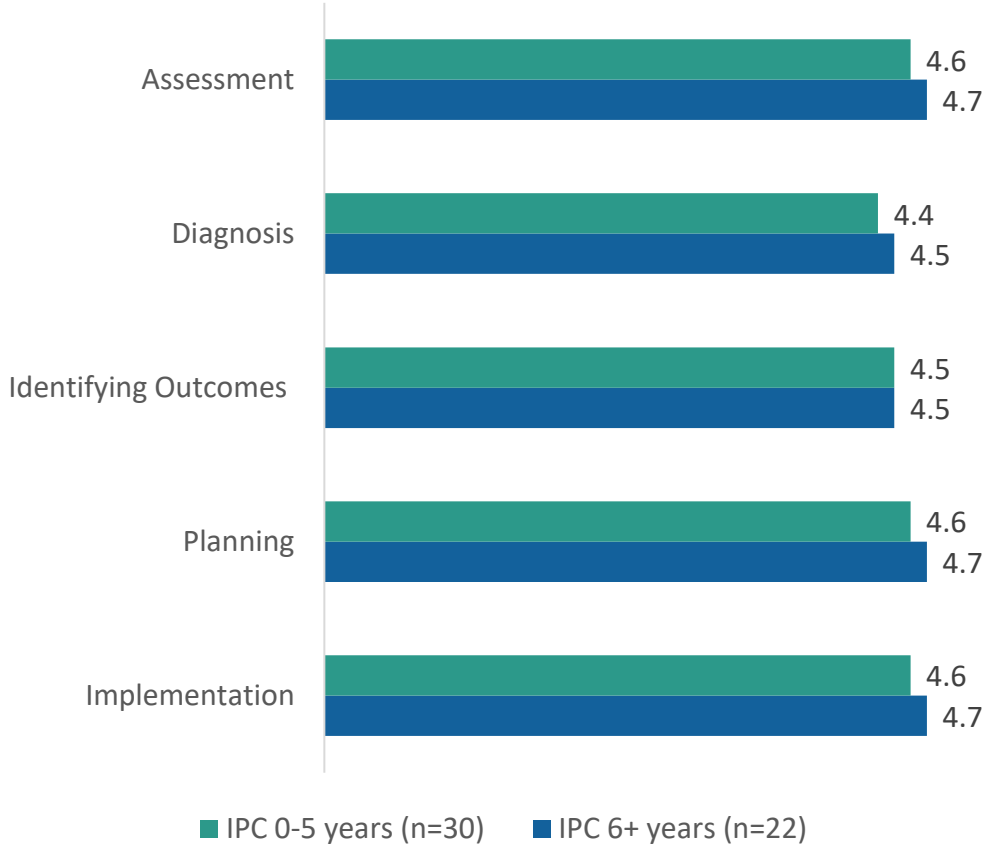
Average scores for self-assessment of confidence in IPC knowledge by years of experience supporting IPC

There was no significant difference in average confidence scores by years of experience supporting IPC.



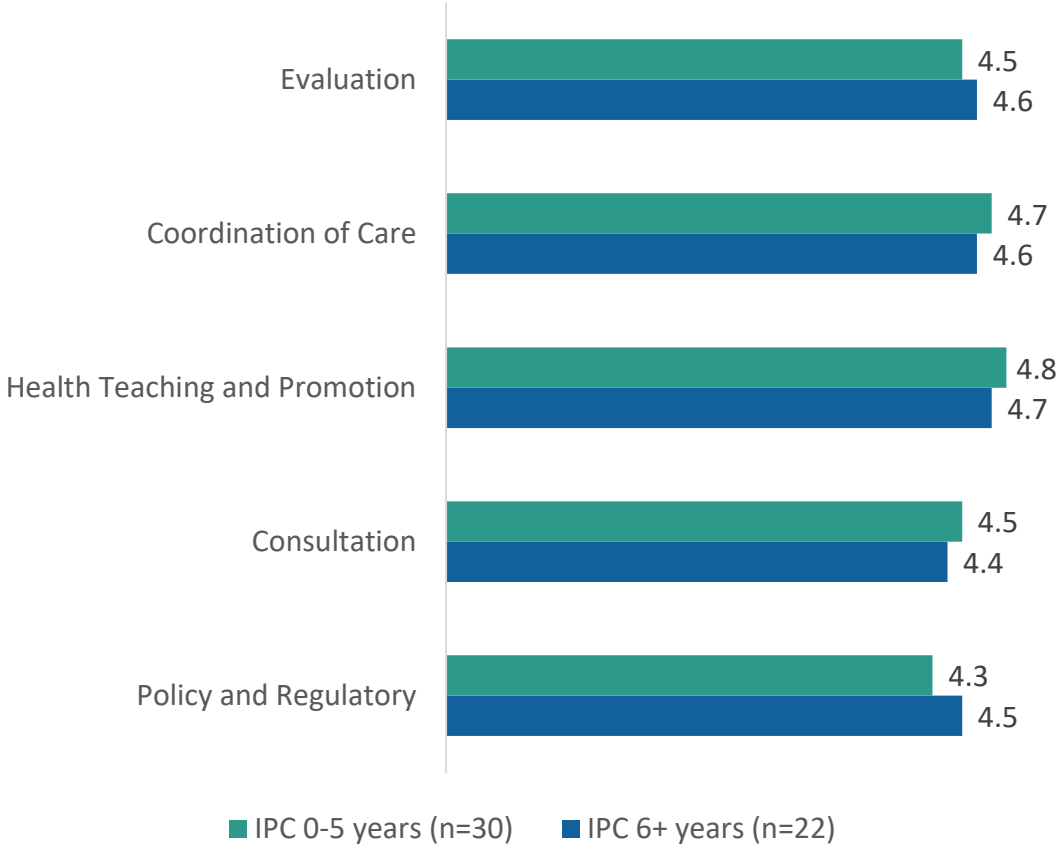
Average scores for self-assessment of importance of nursing activities by years of experience supporting IPC

There was no significant difference in average importance scores for nursing activities by years of experience supporting IPC.



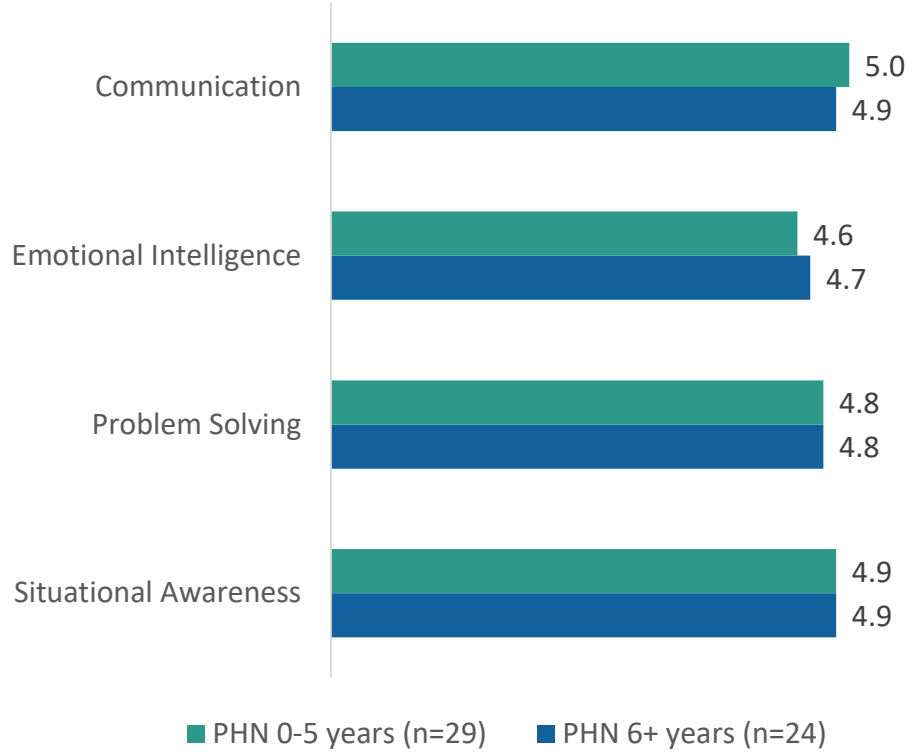
Average scores for self-assessment of importance of nursing activities by years of experience supporting IPC (cont.)

There was no significant difference in average importance scores for nursing activities by years of experience supporting IPC.



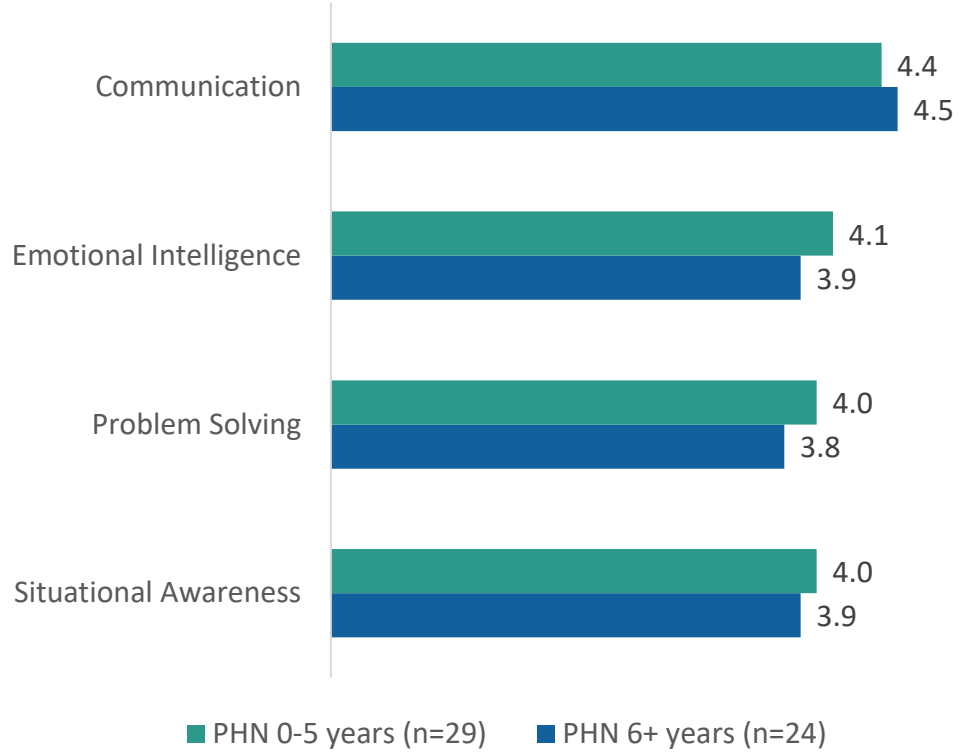
Average self- assessment scores importance of essential skills by years of experience as a public health nurse

There was no significant difference in average importance scores by years of experience working as a PHN.



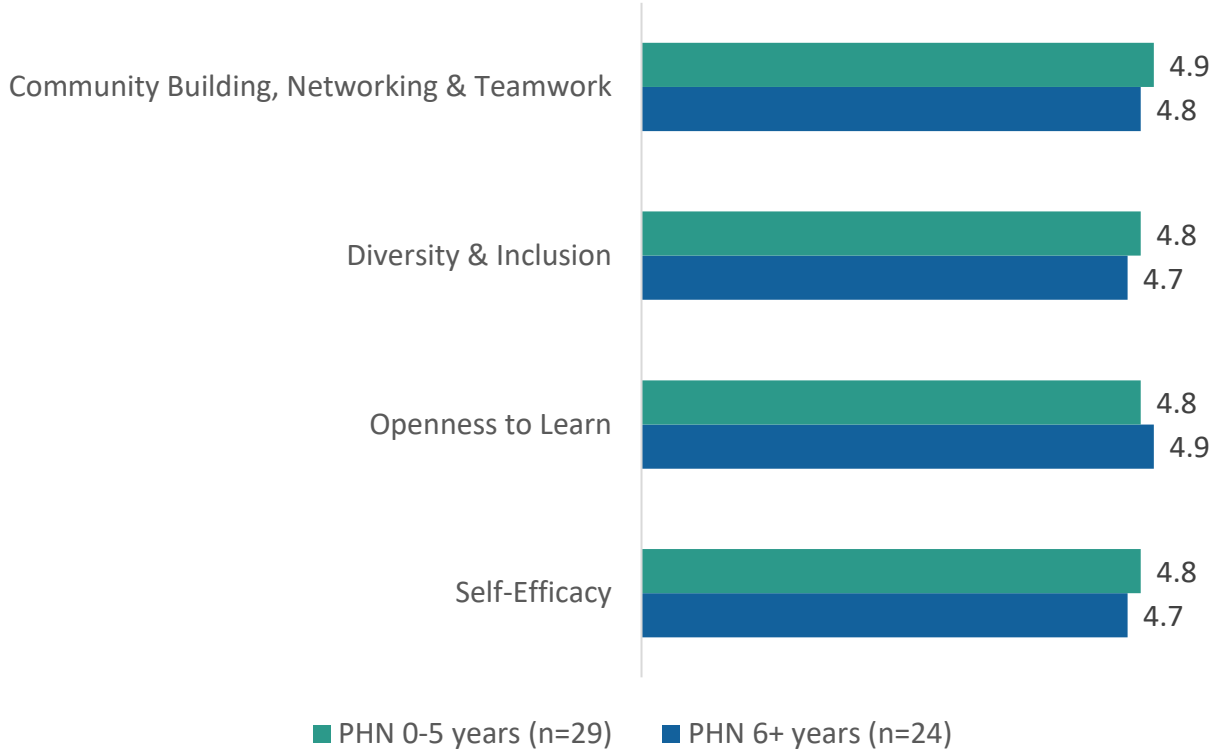
Average scores for domain statements for essential skills by years of experience as a public health nurse

There was no significant difference in average essential skill domain statement scores by years of experience working as a PHN.



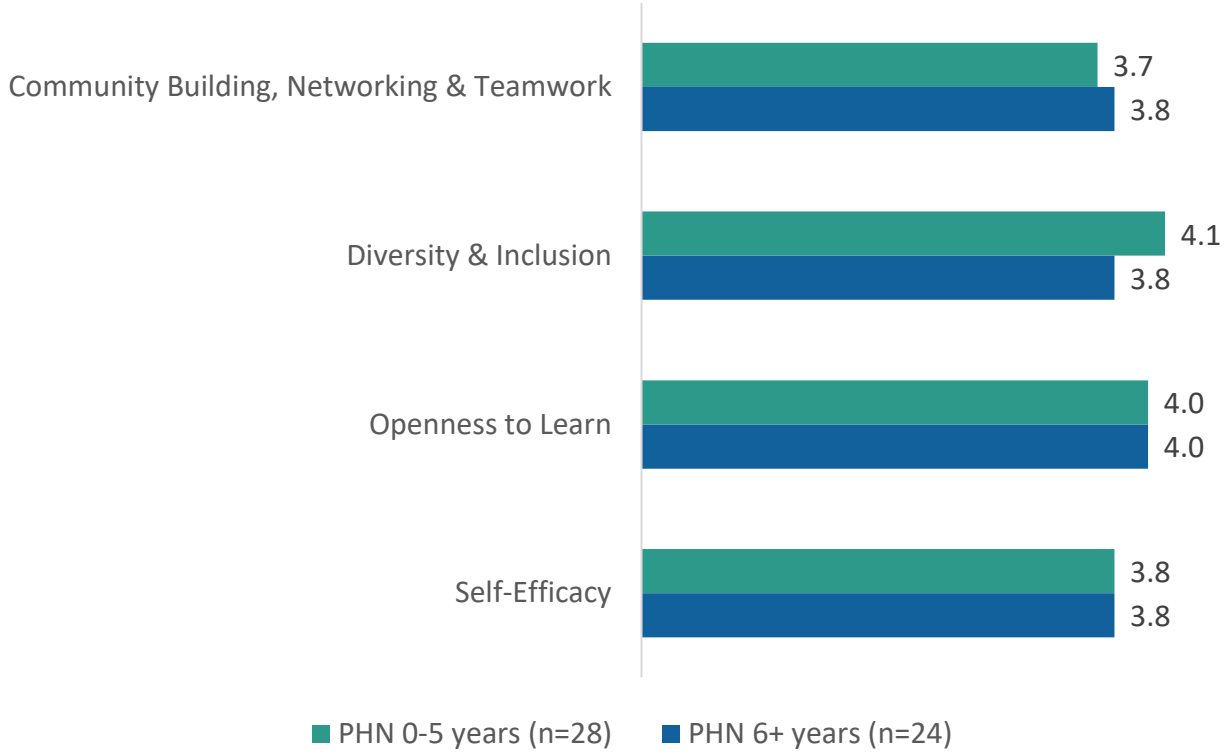
Average self- assessment scores importance of essential attitudes by years of experience as a public health nurse

There was no significant difference in average importance scores by years of experience working as a PHN.



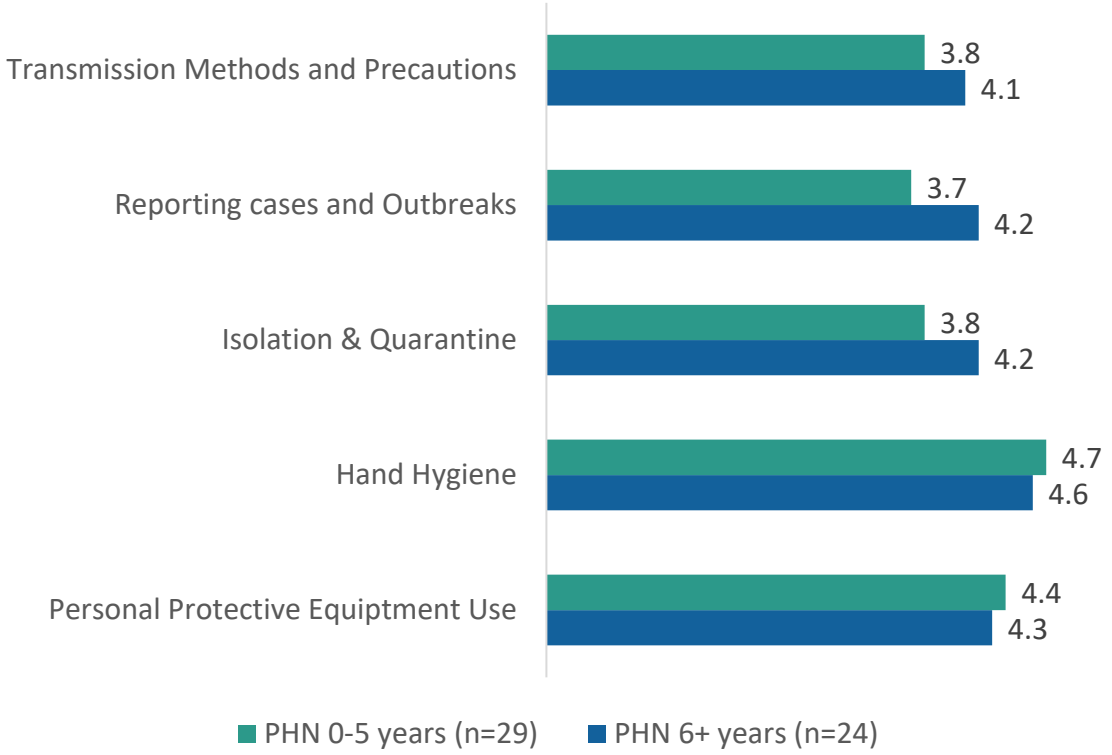
Average scores for domain statements essential attitudes by years of experience as a public health nurse

There was no significant difference in average essential attitude domain statement scores by years of experience working as a PHN.



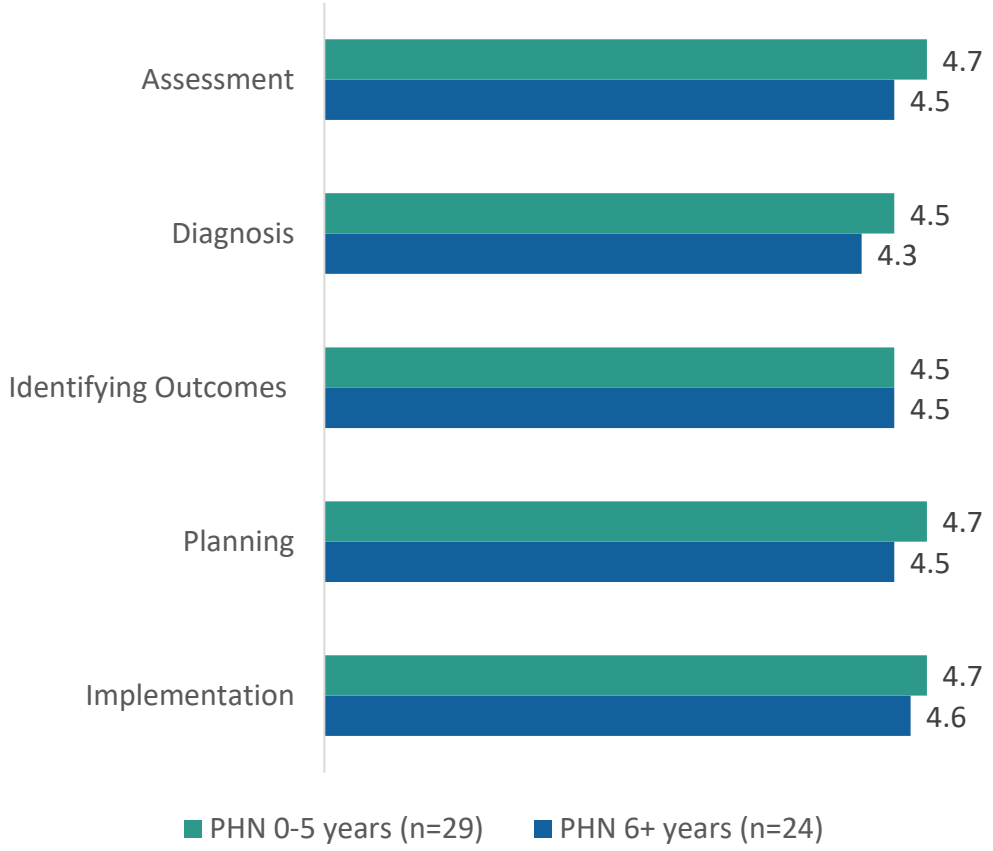
Average scores for self-assessment of confidence in their IPC knowledge by years of experience as a public health nurse

Average scores for confidence in reporting cases and outbreaks was significantly different by years of experience working as a PHN (0-5 years: 3.7, 6+ years: 4.3, *p* =.017).



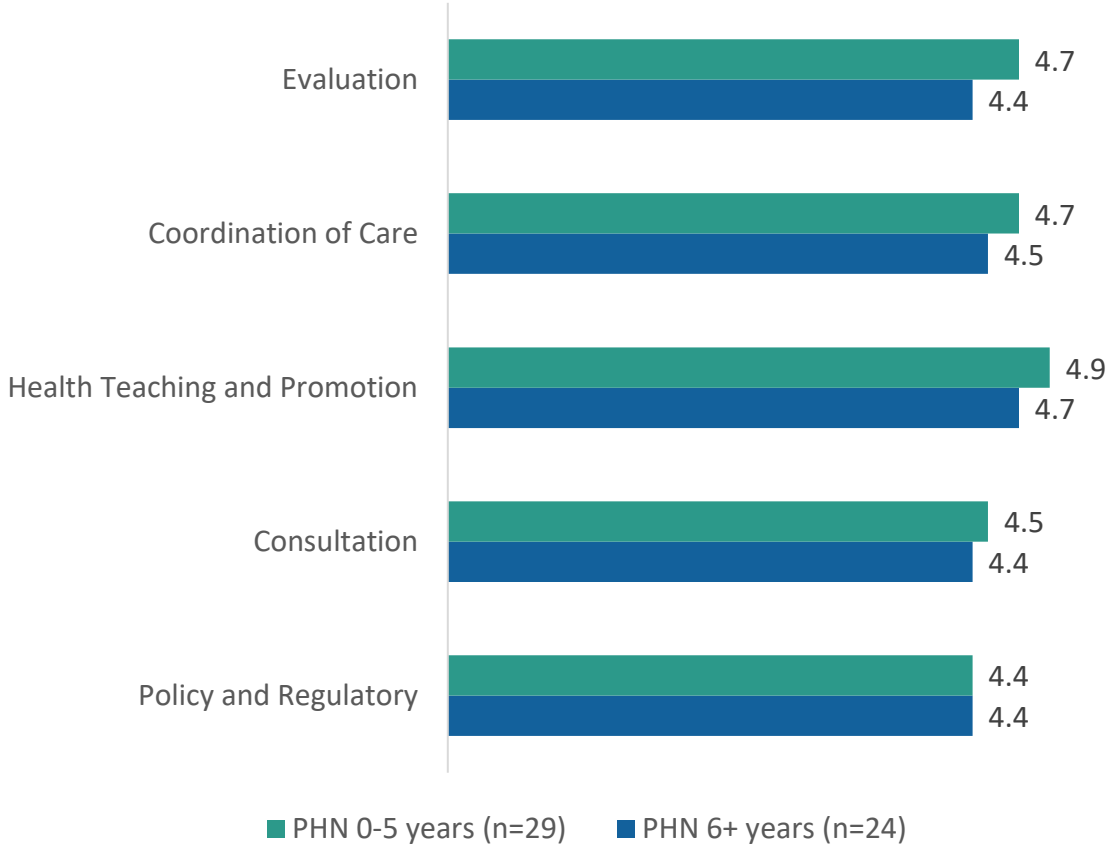
Average scores for self-assessment of importance of nursing activities by years of experience as a PHN

There was no significant difference in average importance scores for nursing activities by years of experience as a PHN.



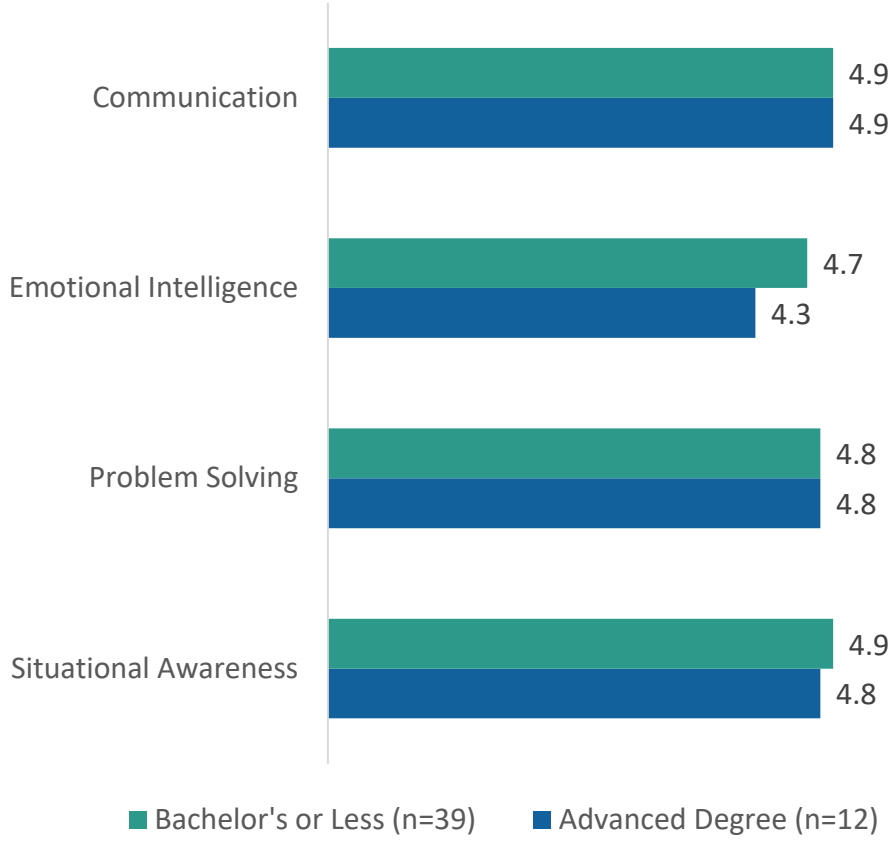
Average scores for self-assessment of importance of nursing activities by years of experience as a PHN (cont.)

There was no significant difference in average importance scores for nursing activities by years of experience as a PHN.



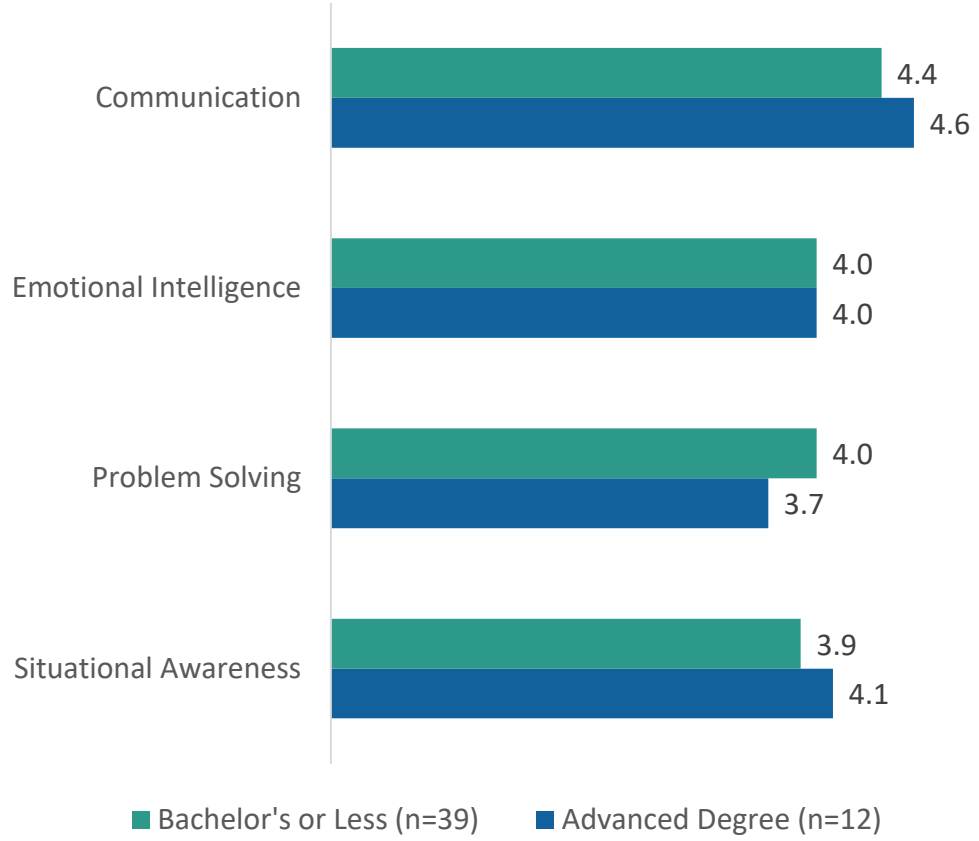
Average self- assessment scores importance of essential skills by education

There was no significant difference in average importance scores by education level.



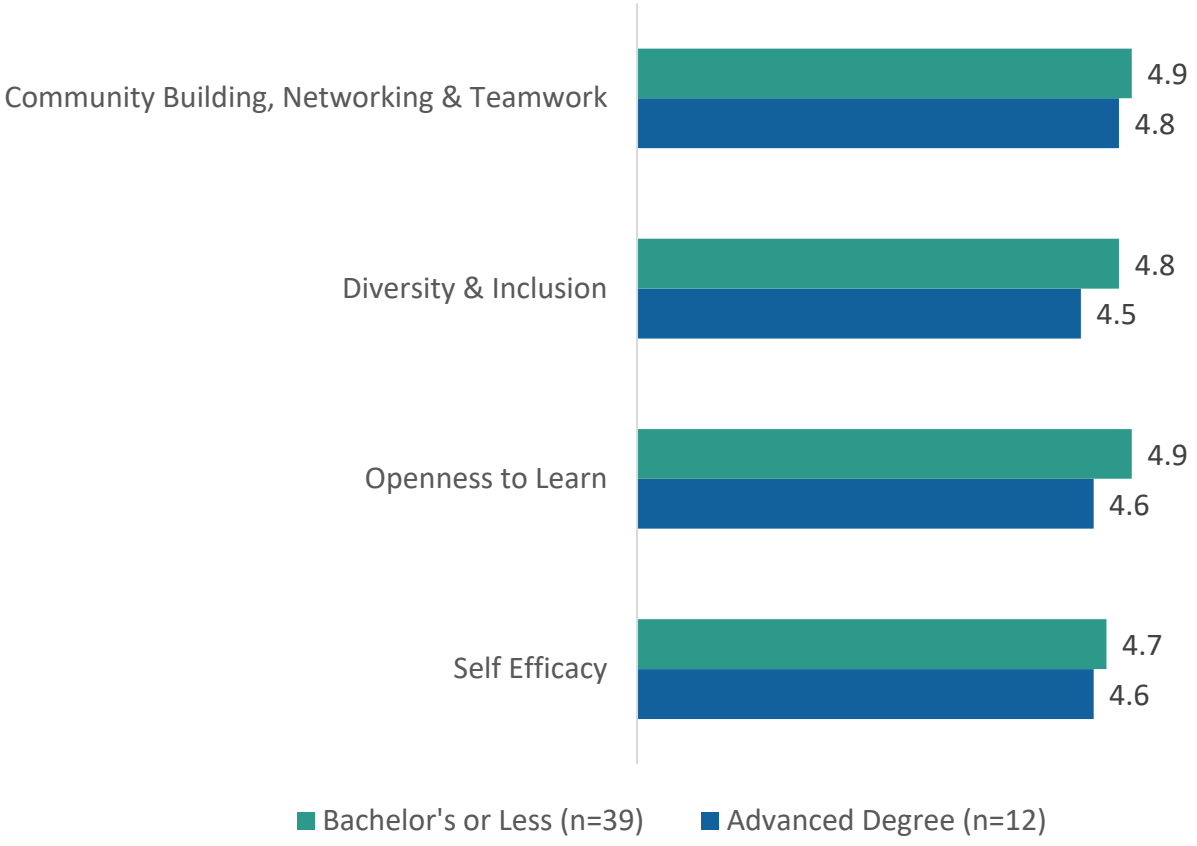
Average scores for domain statements for essential skills by education

There was no significant difference in average essential skill domain statement scores by education level.



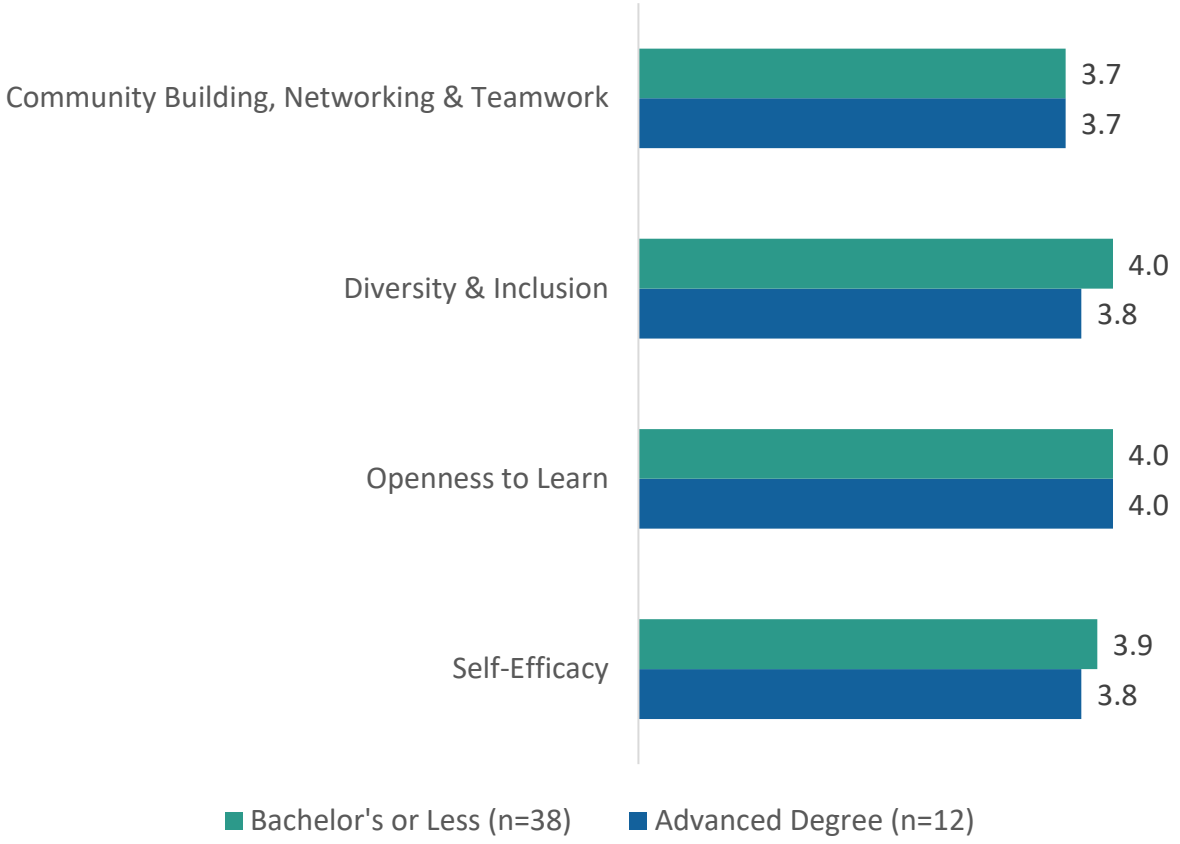
Average self- assessment scores importance of essential attitudes by education

There was no significant difference in average importance scores by education level.



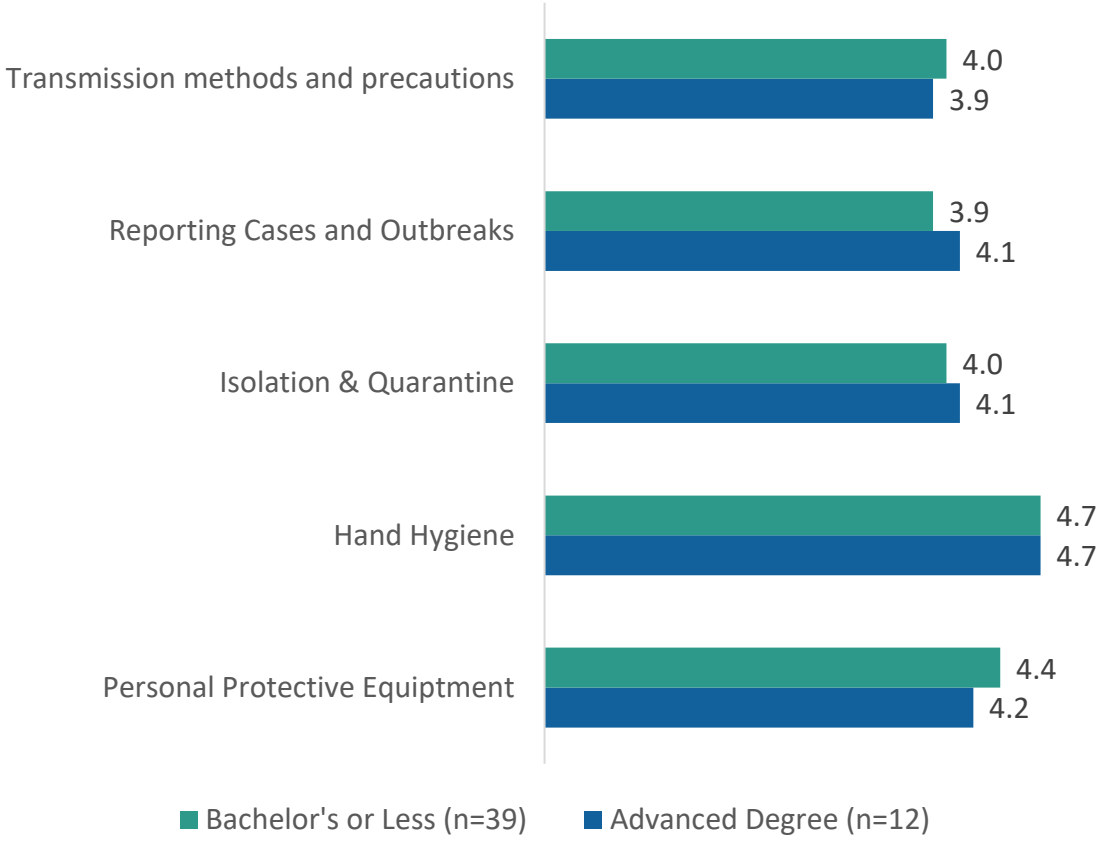
Average scores for domain statements for essential attitudes by education

There was no significant difference in average essential attitude domain statement scores by education level.



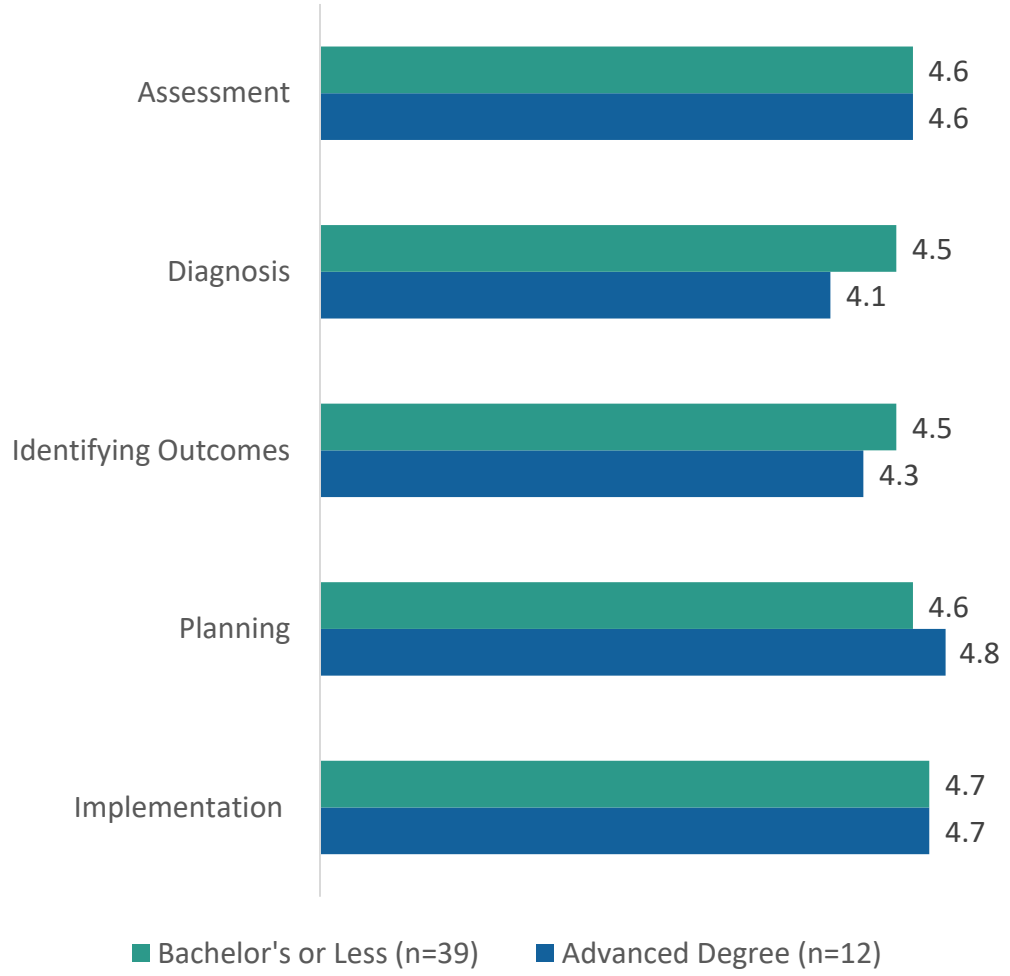
Average scores for self-assessment for confidence in their IPC knowledge by education

There was no significant difference in average confidence scores for nursing activities by education level.



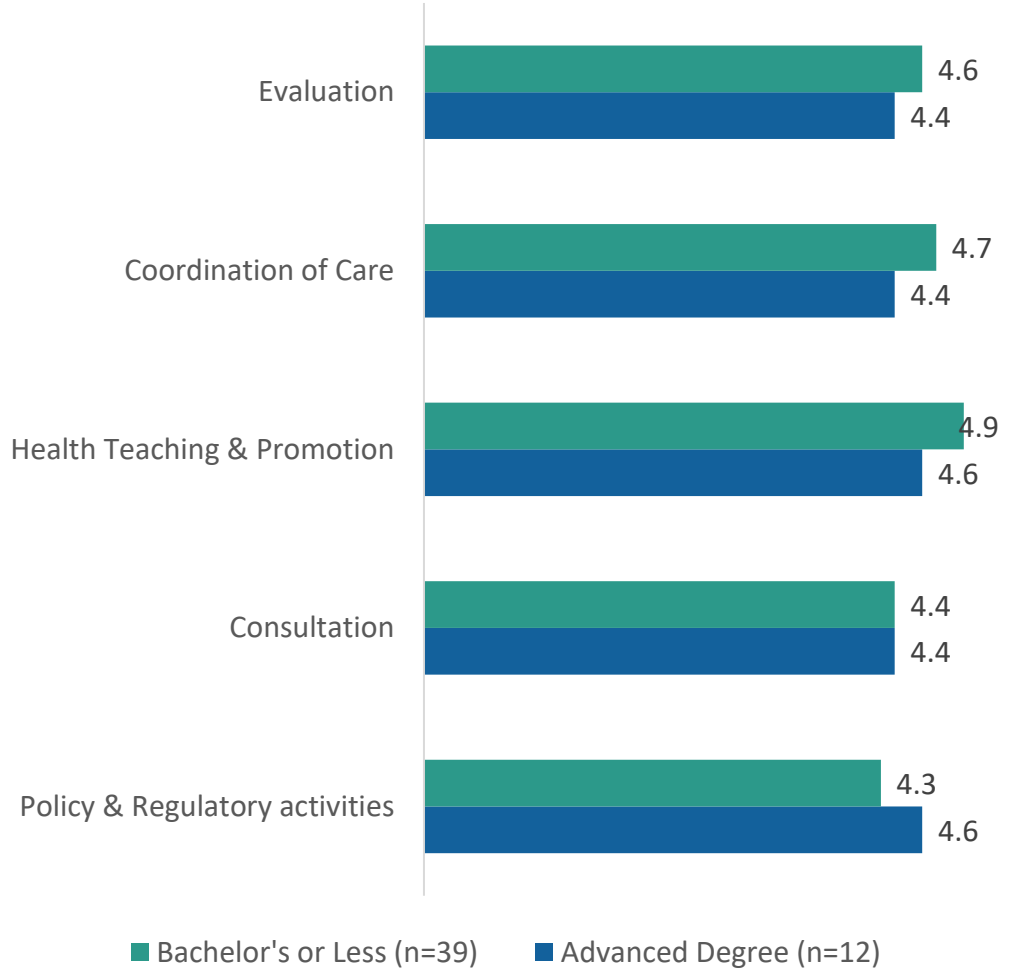
Average scores for self-assessment of importance of nursing activities by education

There was no significant difference in average importance scores for nursing activities by education level.



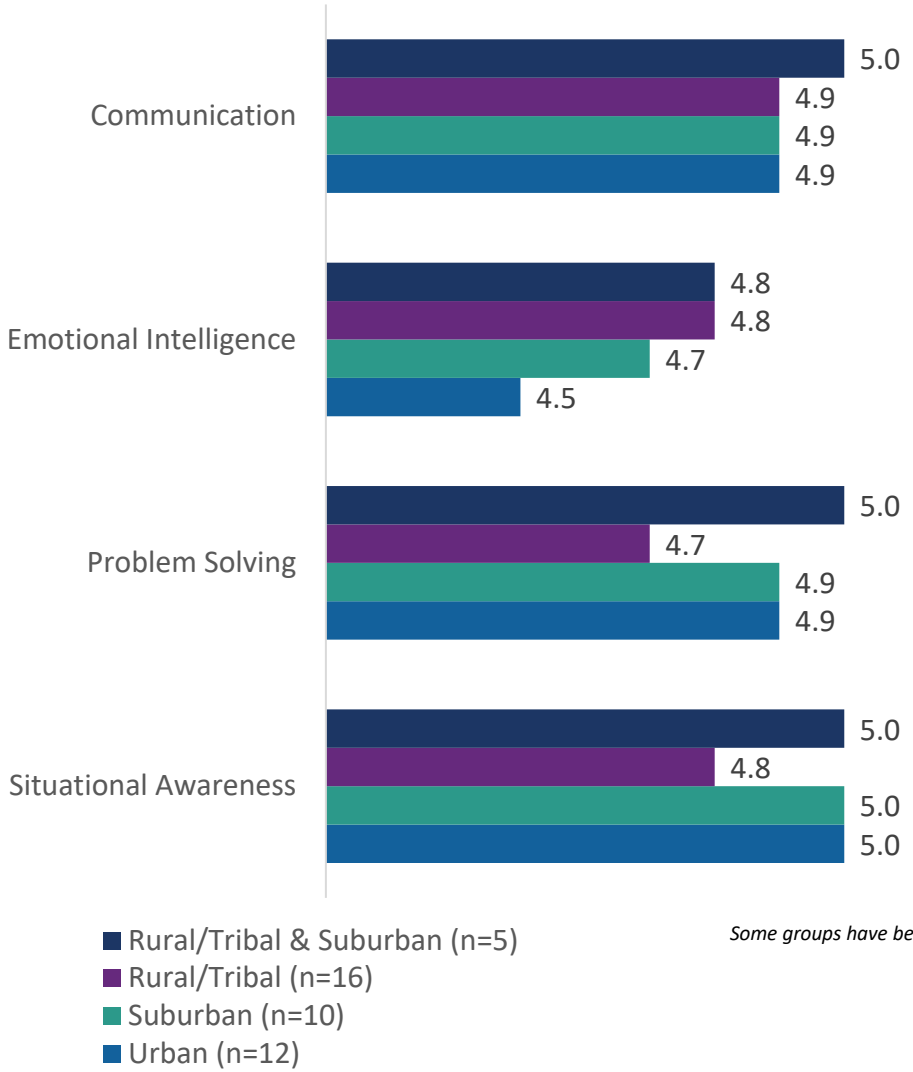
Average scores for self-assessment of importance of nursing activities by education (cont.)

There was no significant difference in average importance scores for nursing activities by education level.



Average self- assessment scores importance of essential skills by rurality

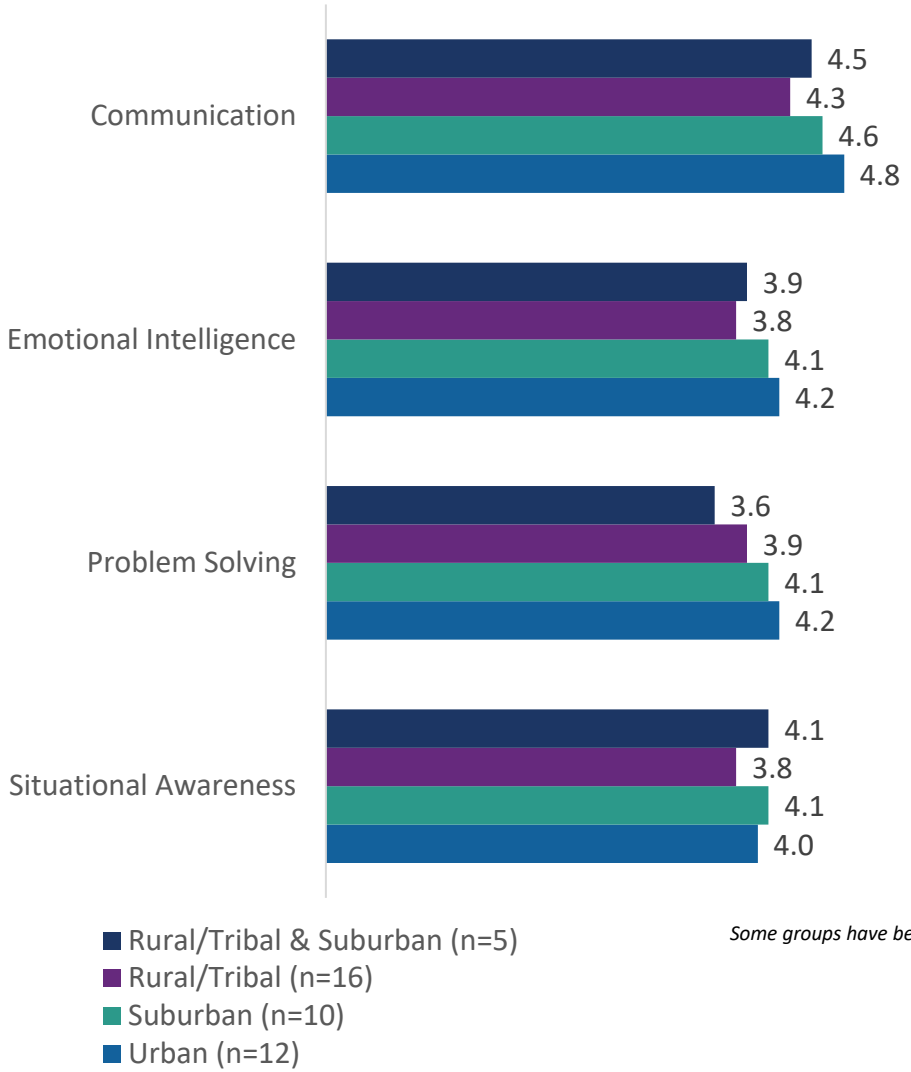
Average score for situational awareness was significantly different by rurality (Rural/Tribal: 4.8, Rural/Tribal & Suburban: 5.0, Suburban: 5.0, Urban: 5.0, (F(6, 46) = [2.31], p = [.049])).



Some groups have been suppressed

Average scores for domain statements for essential skills by rurality

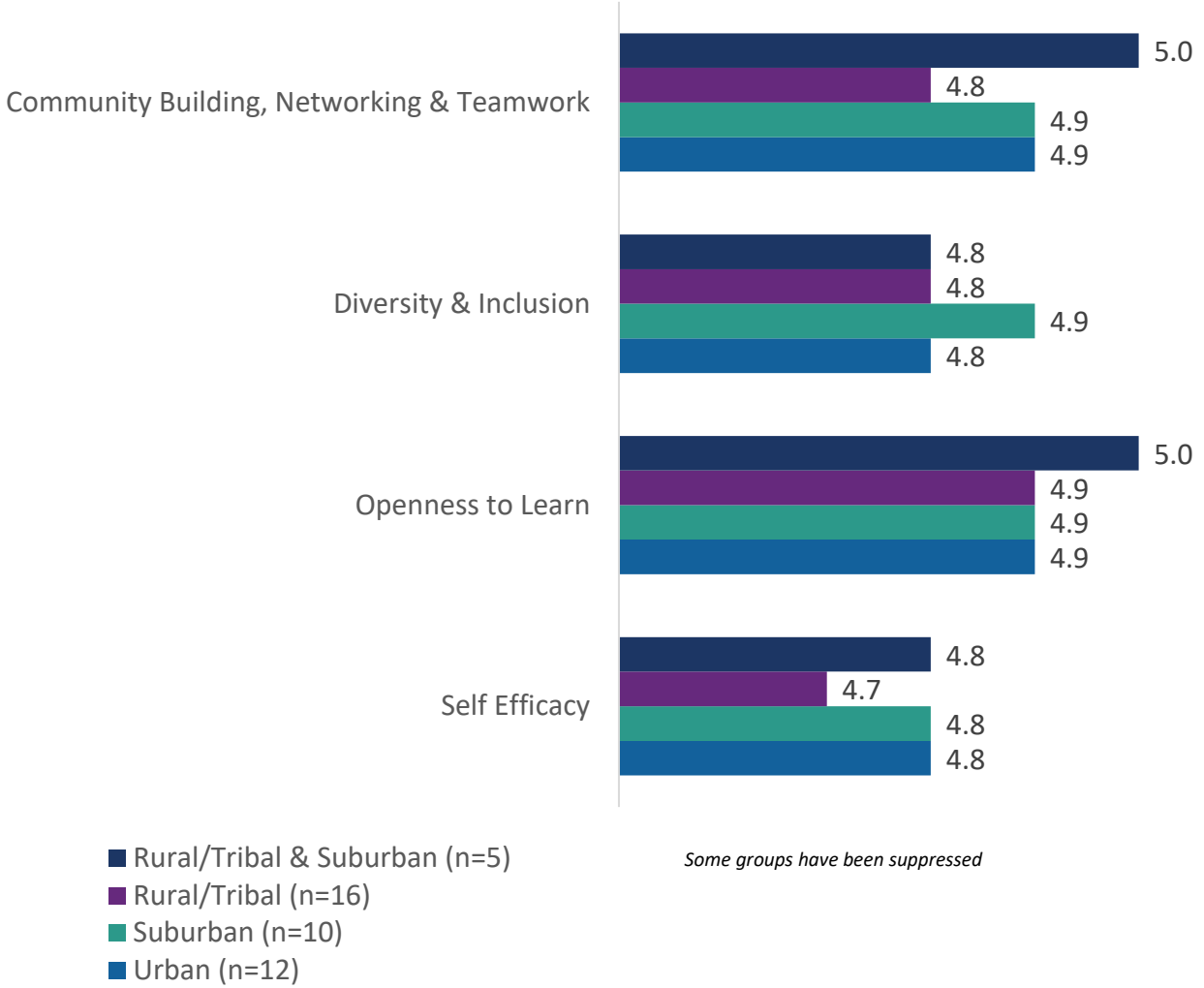
There was no significant difference in average essential skill domain statement scores by rurality.



Some groups have been suppressed

Average self- assessment scores importance of essential attitudes by rurality

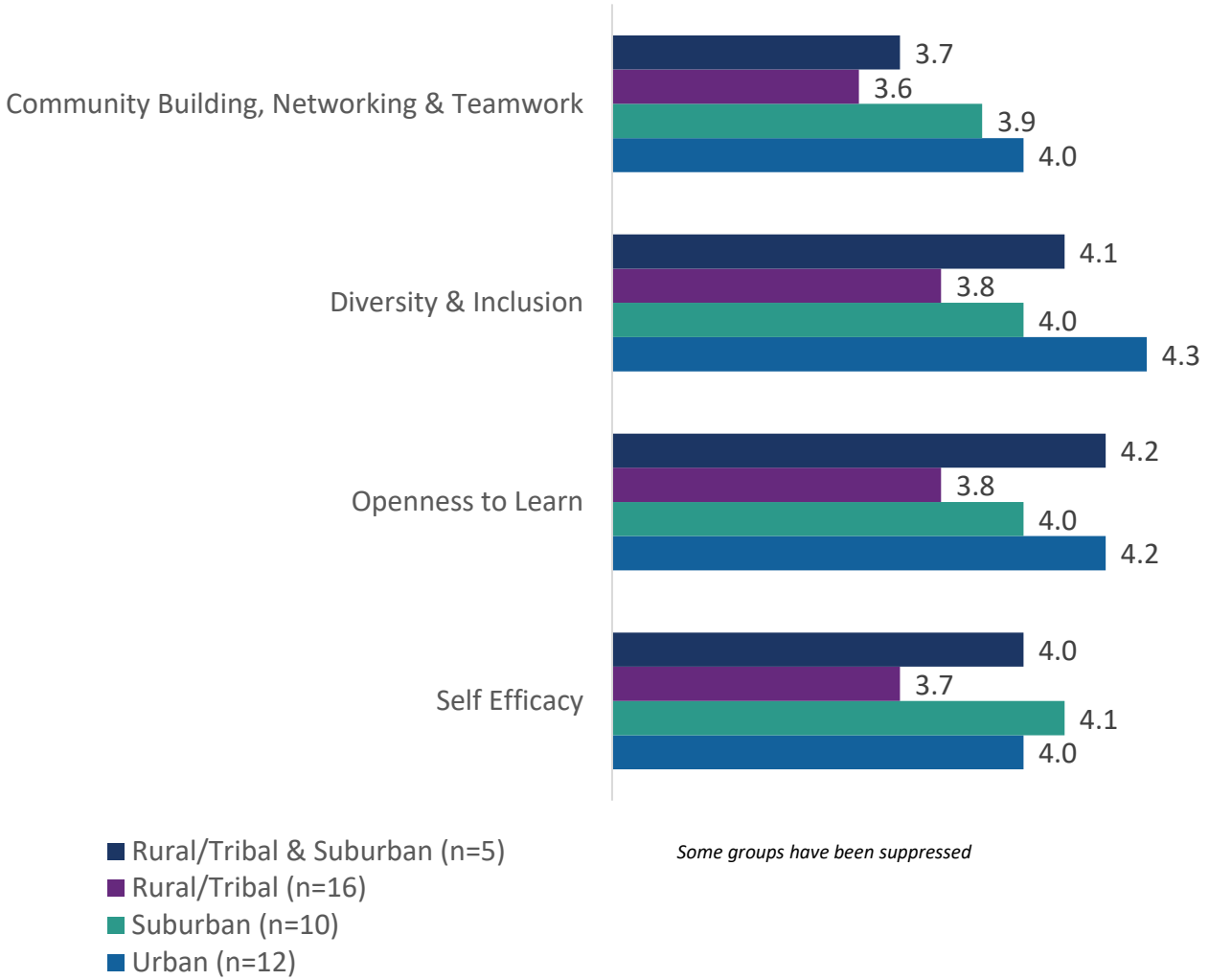
Average score for openness to learn was significantly different by rurality (Rural/Tribal: 4.9, Rural/Tribal & Suburban: 5.0, Suburban: 4.9, Urban: 4.9, (F(6, 46) = [.206], p = [.009])).



Some groups have been suppressed

Average scores for domain statements for essential attitudes by rurality

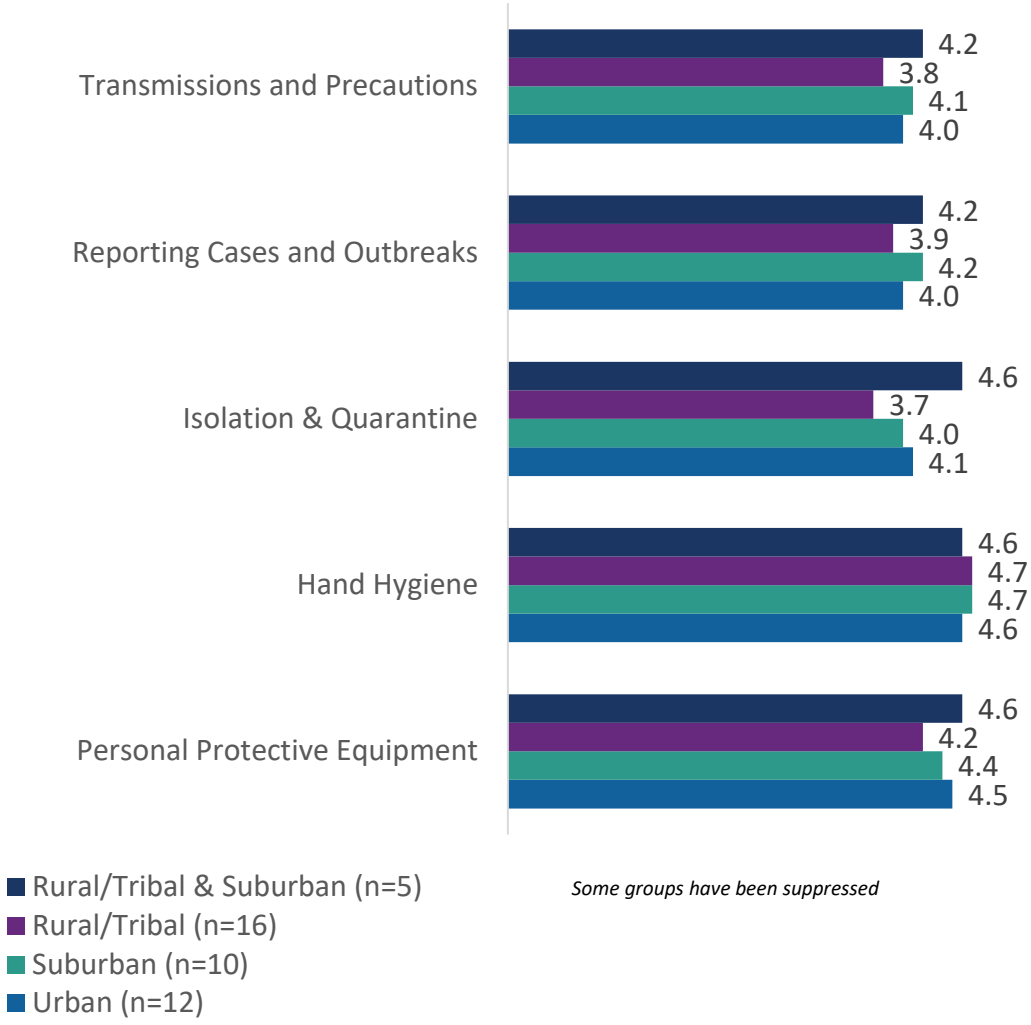
There was no significant difference in average essential attitude domain statement scores by rurality.



Some groups have been suppressed

Average scores for self-assessment for confidence in their IPC knowledge by rurality

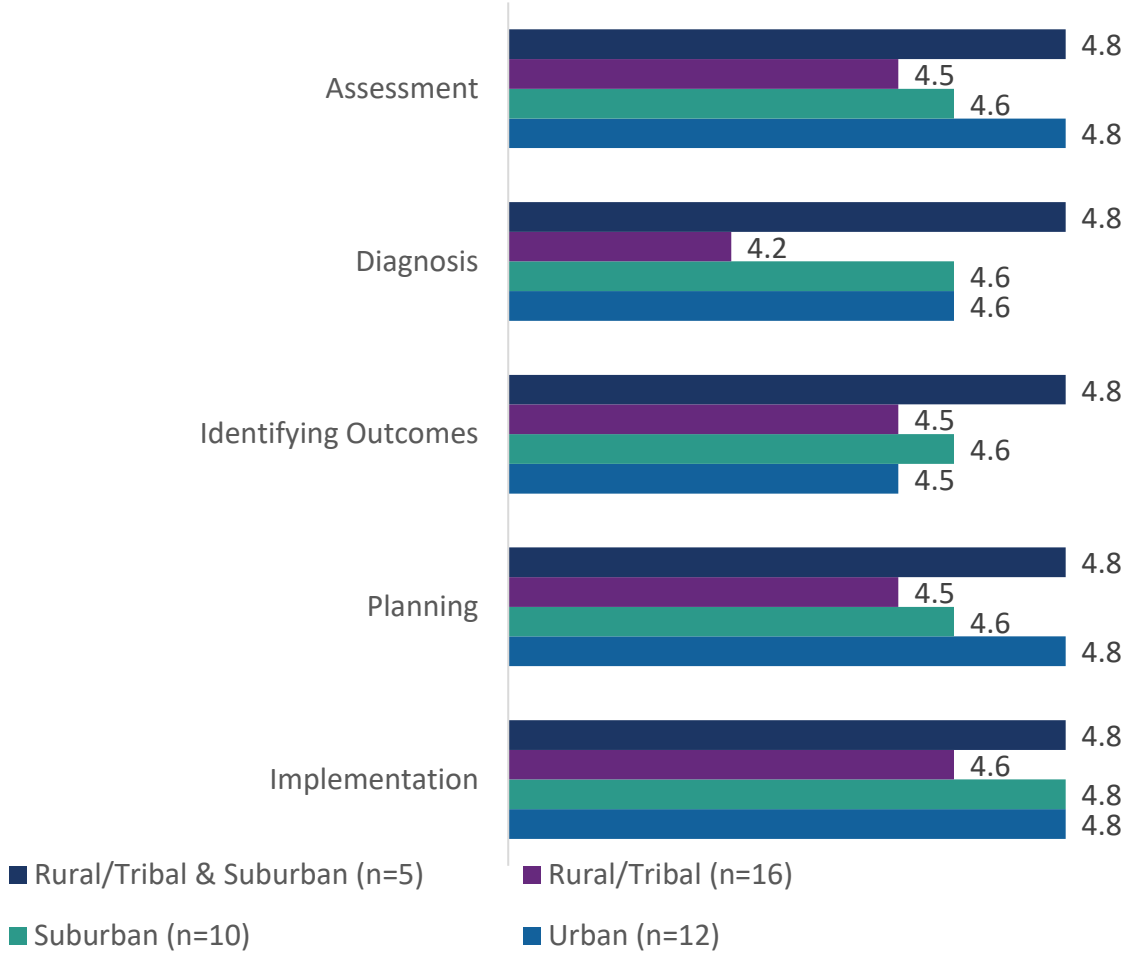
There was no significant difference in average confidence scores by rurality.



Some groups have been suppressed

Average scores for self-assessment of importance of nursing activities by rurality

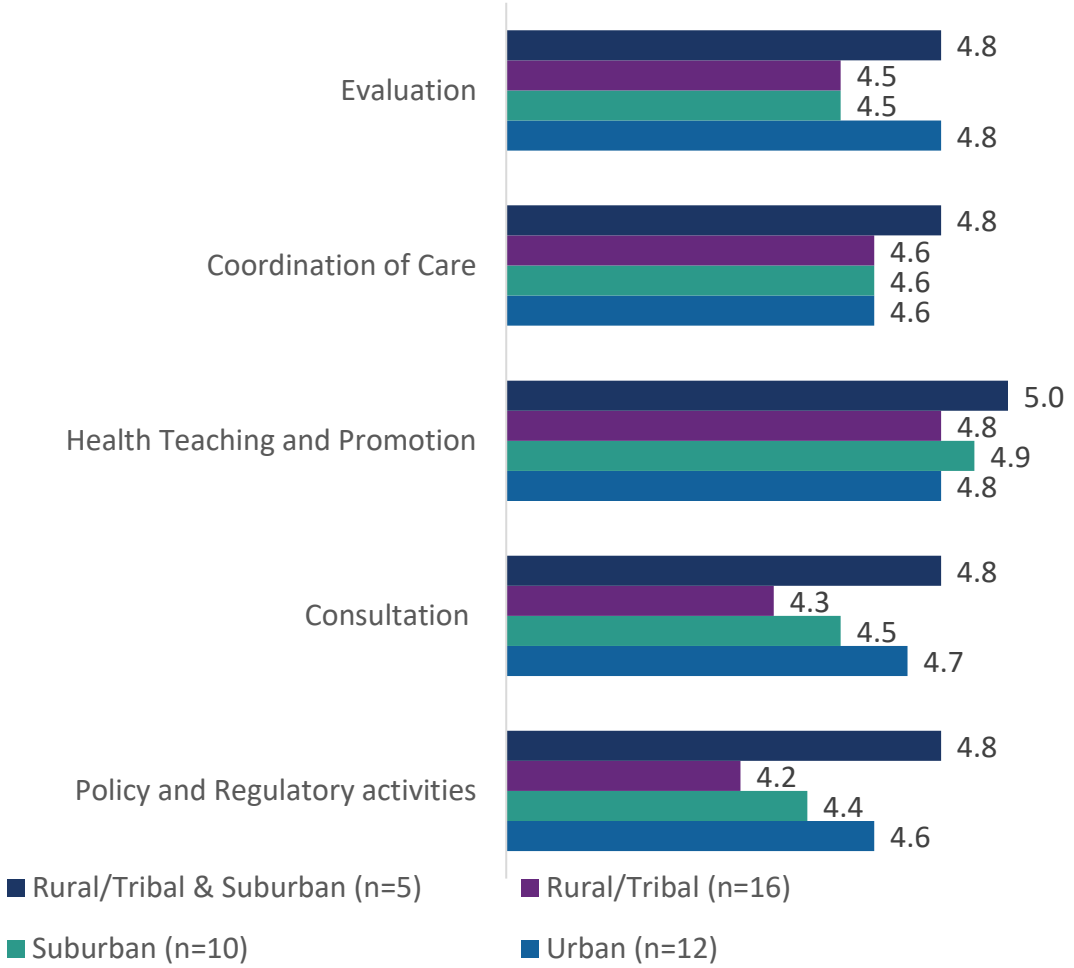
There was no significant difference in average importance scores by rurality.



Some groups have been suppressed

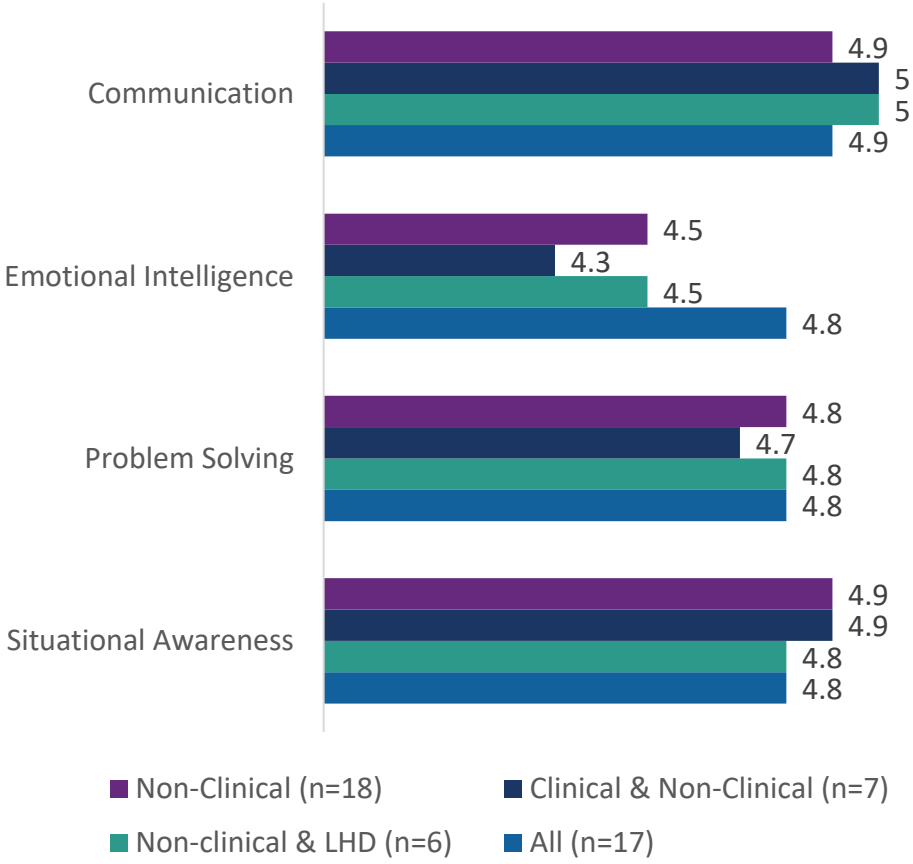
Average scores for self-assessment of importance of nursing activities by rurality (cont.)

There was no significant difference in average importance scores by rurality.



Some groups have been suppressed

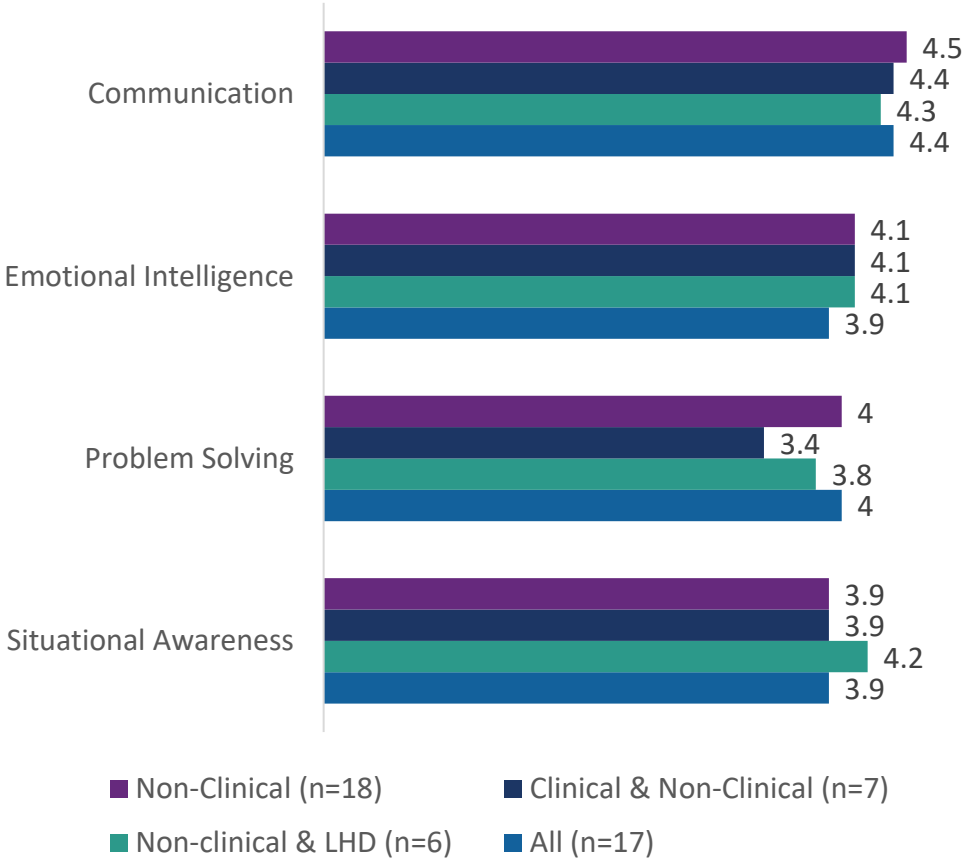
Average self- assessment scores importance of essential skills by healthcare setting



There was no significant difference in average scores by healthcare setting.

Some groups have been suppressed

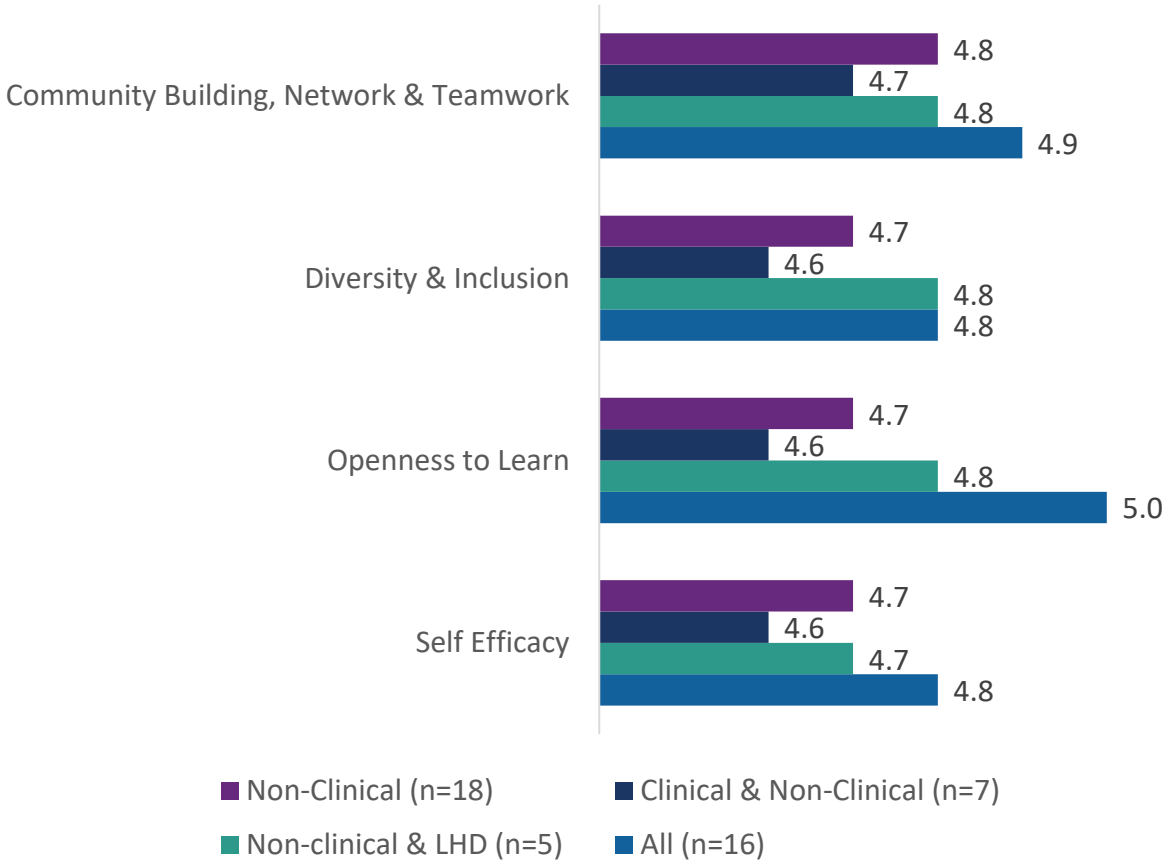
Average scores of domain statements for essential skills by healthcare setting



There was no significant difference in average essential skill domain statement scores by healthcare setting.

Some groups have been suppressed

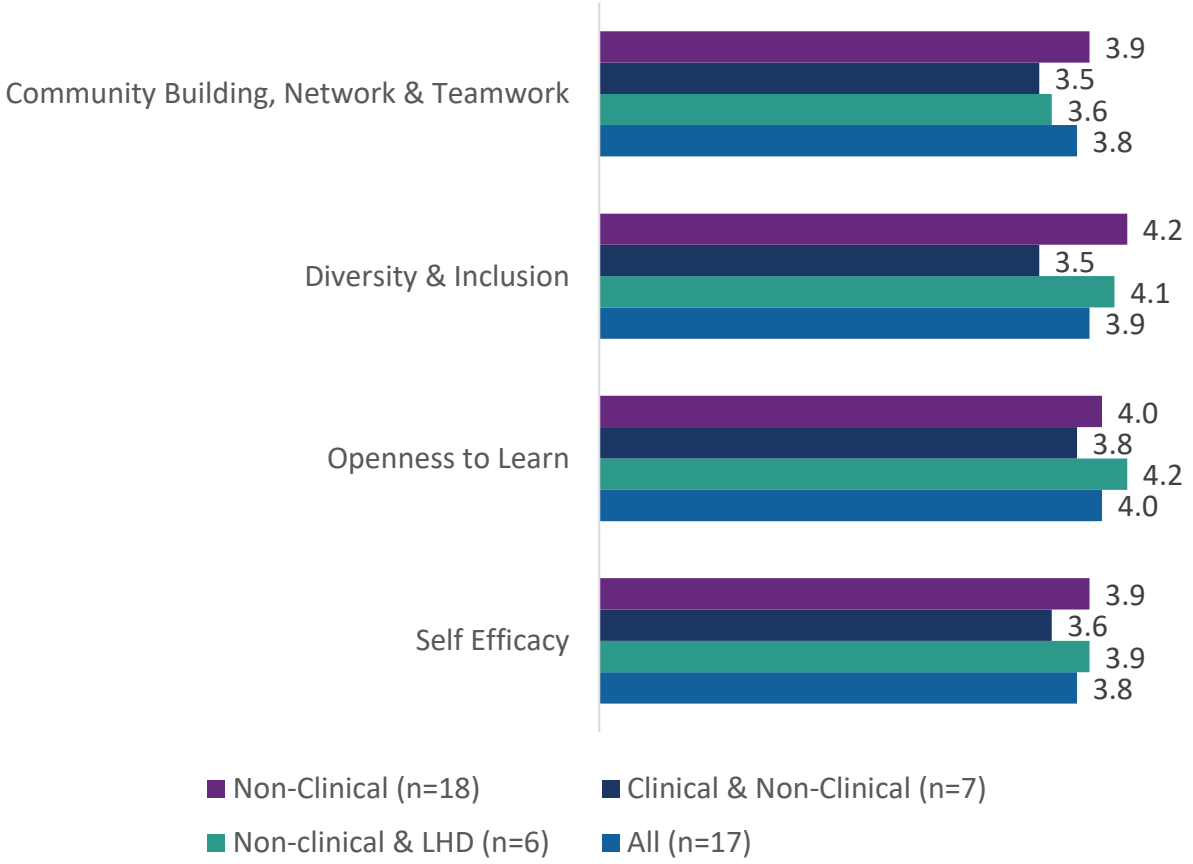
Average self-assessment scores importance of essential attitudes by healthcare setting



There was no significant difference in average scores by healthcare setting.

Some groups have been suppressed

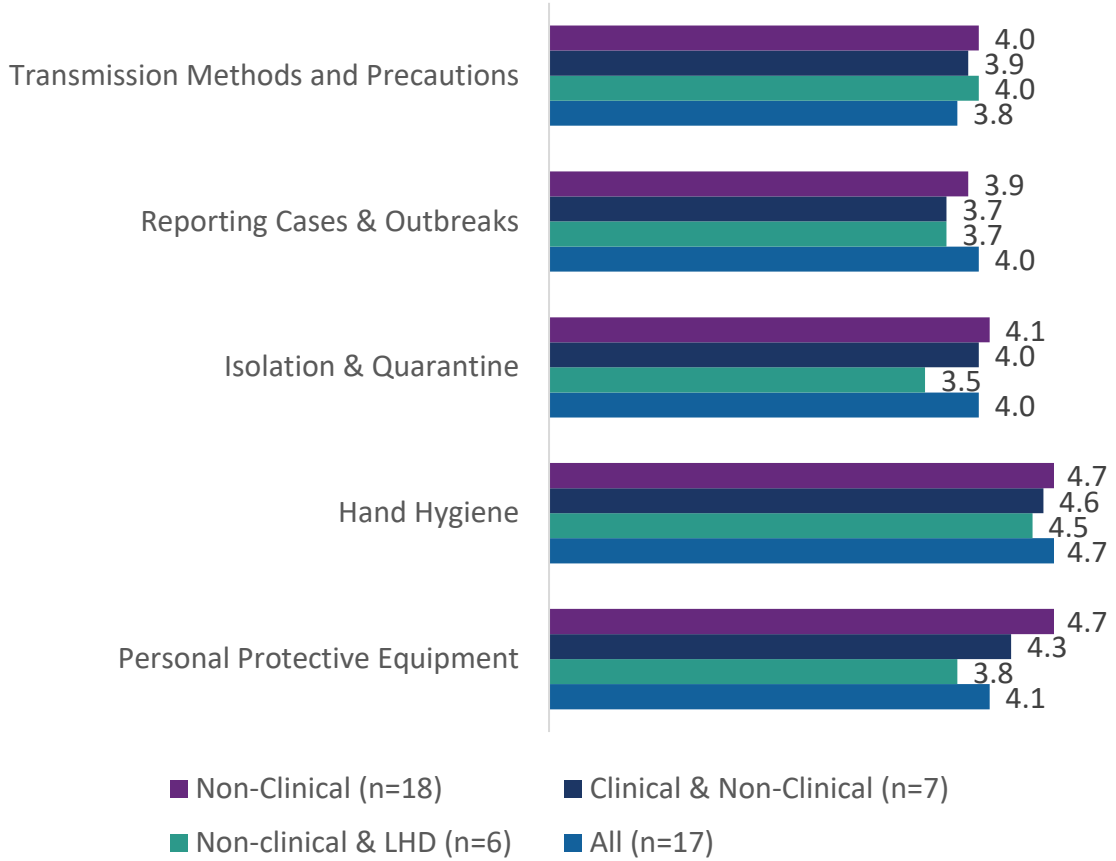
Average scores of domain statements for essential attitudes by healthcare setting



There was no significant difference in average essential attitude domain statement score by healthcare setting.

Some groups have been suppressed

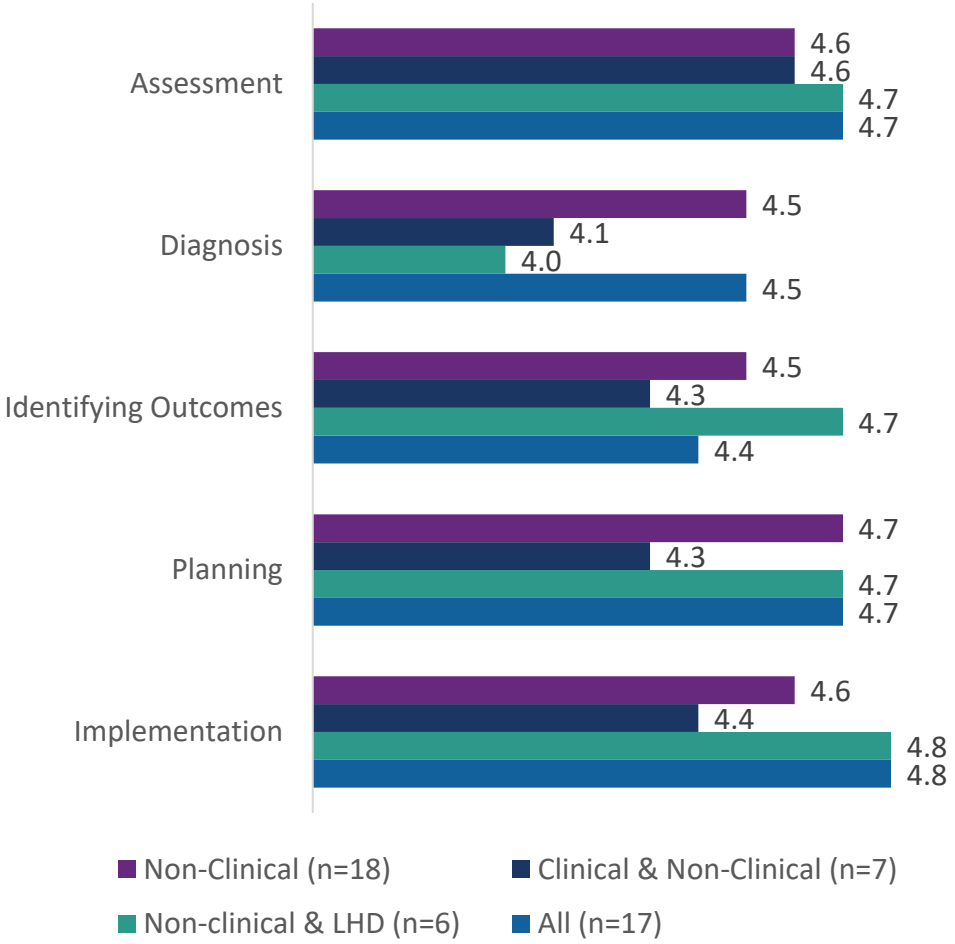
Average scores for self-assessment of confidence in their IPC knowledge by healthcare setting



Average score for personal protective equipment use was significantly different by healthcare setting (Non-clinical: 4.7, Clinical & Non-clinical: 4.3, Non-clinical & LHD: 3.8, All: 4.1, (F(5, 46) = [2.61], p = [.037])).

Some groups have been suppressed

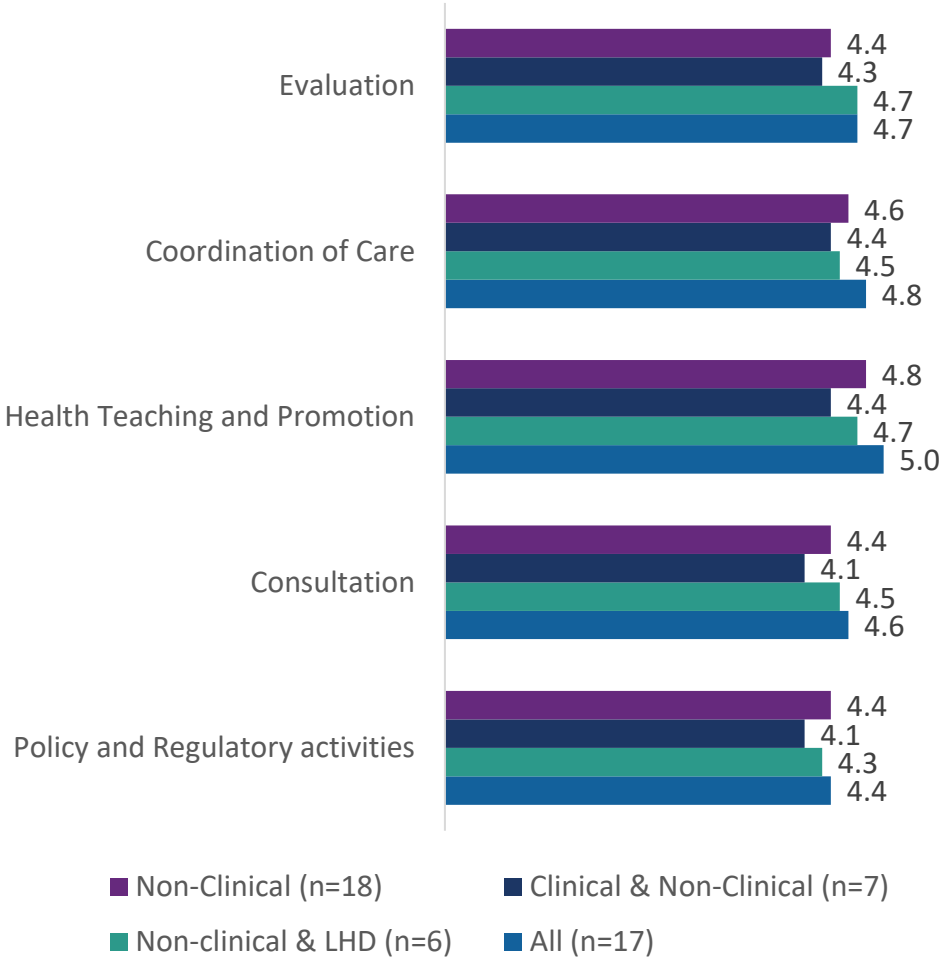
Average scores for self-assessment of importance of nursing activities by healthcare setting



There was no significant difference in average scores by healthcare setting.

Some groups have been suppressed

Average scores for self-assessment of importance of nursing activities by healthcare setting (cont.)



There was no significant difference in average scores by healthcare setting.

Some groups have been suppressed