

Research

Examining the Influence of Academic Degree Level on Health Care Providers' Perceptions of Interprofessional Collaboration: A pilot study

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Abstract

Purpose: Health care provider perceptions of interprofessional collaboration (IPC) have been well documented, however barriers to provider participation persist. The purpose of this pilot study was to examine differences in health care providers' perceptions of IPC based on the academic degree level.

Methods: Licensed health care providers with faculty appointments at a four-year university-based setting were invited to participate in an electronic survey. Attitudinal questions in the survey instrument were based on the Theory of Planned Behavior and the Social Cognitive Theory and assessed perceptions, attitudes, norms, and self-efficacy toward IPC. Descriptive statistics were used to analyze the data.

Results: Respondents (n=179) included faculty in medicine (29%), dentistry (23%), nursing (13%), dental hygiene (11%), physical therapy (8%), and pharmacy (7%). Ninety percent of respondents agreed or strongly agreed that IPC is important for improving patient health outcomes. Respondents across all degree levels were significantly more comfortable taking recommendations on patient treatment from another health care provider with a doctoral degree as compared to a health care provider with an associate degree, with mean scores declining from 5.58 to 4.58 ($p=0.000$).

Conclusion: While all respondents valued IPC in improving patient outcomes, their perceptions of other health care providers' level of academic degree may play a role in their willingness to truly collaborate with them. Despite an institution's positive culture of IPC, bias and stereotypes regarding the level of academic degree need to be addressed. Results indicate that while health care providers with lower academic degrees may be valuable contributors to the IPC team, their academic degree could be a barrier to their meaningful inclusion.

Keywords: interprofessional collaboration, health outcomes, academic degree, health care provider stereotypes, willingness to collaborate

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Introduction

The Patient Protection and Affordable Care Act (ACA) recognizes the integral role of preventive health services and introduced a new health care delivery paradigm that embraced interprofessional collaboration (IPC).^{1,2} Interprofessional collaboration can be described as a partnership between multiple health providers of different professions, in which there is shared decision making.³ An important barrier to the formation of effective interprofessional health care teams are the existing stereotypes and misconceptions among health

care professionals toward professions other than their own.⁴ These stereotypes can interfere with collaboration and affect communication and interactions between providers. In addition, level of education (i.e. level of academic degree) has been found to have an impact on practitioners' perceptions of IPC and professional identity. A study by Miller found that higher educational levels have a positive influence on IPC among graduate prepared nurses.⁵ Level of education has also been shown to influence professional values among nurses. In

a systematic review of the literature examining how level of education affects the professional values of nurses in clinical practice, Sibandze et al. concluded that nurses pursuing a bachelor's or higher degree had a greater awareness and were more likely to apply professional values in practice when compared to nurses with non-academic, certificate or associate degrees.⁶ Baccalaureate degree or higher educated nurses were shown to hold professional values as being a fundamental component of quality nursing practice.⁶ Dental hygienists also have also been shown to play an important role as part of interprofessional teams and place a high professional value on IPC.^{7,8} While academic degree level does not change the scope of practice for a dental hygienist in clinical practice, it is still important to consider barriers to true IPC such as other health care providers' perceptions of the team member's education level.

Evidence shows that health care professional students rate their own profession more positively than other professions.⁹ Health care students and providers are commonly educated about each providers' role within the interprofessional team in order to develop accurate perceptions to facilitate effective communication and collaboration. Since the various health profession faculty members have a large impact on how students practice in the future it may be insightful to explore their attitudes and perceptions regarding IPC, including their willingness to collaborate with health care providers who have a different level of academic degree to their own.

The determinants of IPC include the opportunity, ability, and a provider's willingness to collaborate.¹⁰ This willingness to collaborate is directly related to a health care provider's attitudes and intentions towards team-based patient care and may be challenging to objectively measure.¹¹ However, the determinants of and barriers to IPC can be further examined through the established social cognition models of behavior theory. Assessing a health care practitioner's willingness to participate in IPC through the lens of behavior theories such as Azjen's Theory of Planned Behavior (TPB) and Bandura's Social Cognitive Theory (SCT) can be insightful in understanding which attributes motivate a person to perform or engage in specific behaviors as well as reasonably predict their intention to do so.^{11,12} Specifically, the TPB and SCT suggest that human behaviors are guided by perceptions, attitudes, norms, and behavioral control (self-efficacy).^{11,12} Social Cognitive Theory elaborates further, adding environmental factors to the equation.¹² The purpose of this pilot study at a university-based health care education setting was to examine differences in health care providers' perceptions of IPC based on their level of academic degree.

Methods

This non-experimental cross-sectional survey study was determined to be exempt from the Institutional Review Board (IRB) oversight by the Health Sciences and Behavioral Sciences at the University of Michigan (U-M) (HUM#00162953). To quantify the health care providers' willingness to collaborate, and make predictions regarding their behavior, an original survey was designed using Francis et al. in which questions are structured around the constructs of TPB and SCT.¹³ The electronic survey was validated by the U-M Survey Research Center and piloted with seven health care providers of various health professions. Based on feedback from the pilot, changes were made to improve readability. Survey items included demographic questions, Likert scale and matrix style items that assessed provider perceptions, attitudes, and intentions towards IPC. Targeted survey participants were health care providers with faculty appointments at the University of Michigan who held different levels of academic degrees. An a priori power analysis determined an appropriate sample size of 168 respondents.

An email invitation and link were sent via the U-M Center for Interprofessional Education (IPE) to the deans of the U-M professional schools for dissemination to their faculty. Two reminder email invitations were sent to faculty one and two months after the initial email invitation. Inclusion criteria were licensed health care providers with faculty appointments at the U-M. The data from the survey responses were analyzed with a statistical software program (SPSS v26; IBM, Armonk, NY, USA). Descriptive statistics including frequency distribution, percentages, and measures of central tendency, specifically mean scores, were used to provide an overview of the findings. Inferential statistics such as one-way ANOVAs and paired t-tests were used to test the hypothesis that level of academic degree influences health care providers' perceptions of IPC. Results were considered statistically significant at $p < 0.05$.

Results

A total of 194 faculty accessed the survey via digital link (n=194). Surveys that were less than or equal to 14% complete (n=15) were excluded from analysis. This percentage represents respondents who opened the survey and answered one or less than one question. One hundred seventy-nine responses were included in the data analysis, fulfilling the a priori power analysis of 168 respondents. The response rate could not be calculated because the total population count was not available. Respondents included faculty who were

licensed dentists (23%), physicians (18%), dental hygienists (11%), physical therapists (8%), pharmacists (7%), and registered nurses (6%) (Table I). Nearly 80% of respondents held a doctoral degree, 17% held a master's degree, and 4% held a bachelor's degree.

Perceptions and Attitudes

The TPB and SCT suggest that behaviors are guided by perceptions, attitudes, norms, and behavioral control.^{11,12} Overall, respondents of all degree types had positive perceptions of IPC (Table II). Ninety percent of total respondents agreed or strongly agreed that IPC is important for improving patient health outcomes. Those with doctoral degrees reported higher levels of agreement than those with master's and bachelor's degrees with mean scores of 5.83, 5.71, and 5.29 respectively. Bachelor's degree respondents felt collaborating with a team member with a lower degree (fewer years of education) to be less desirable compared to respondents with doctoral degrees, with mean differences of 1.06 and 1.02 ($p=0.18$, $p=0.020$). In a paired t-test, most respondents were significantly more comfortable taking recommendations on patient care from a health care provider with a doctoral degree as compared to a health care provider with an associate degree, with mean scores declining from 5.58 to 4.58 ($p=0.000$).

Norms

Overall, respondents felt a fairly high degree of social and professional expectation to collaborate with health care providers outside their own profession (Table III). Respondents who held doctoral degrees tended to feel higher expectations to collaborate than respondents who holding bachelor's degrees, although these differences were not significant (5.18 and 4.00, $p=0.067$). Despite respondents feeling a high degree of expectation to collaborate, only one-fourth of the respondents reported feeling pressure to collaborate.

Environmental Factors

When asked about work environment, 80% of the respondents reported working in an interprofessional environment (Table IV). Most (71%) felt they had administrative support to collaborate with health care providers from other disciplines. Respondents who held doctoral degrees were significantly more likely to agree that the complexity of their work makes it necessary for them to collaborate, when compared to respondents with master's degrees (5.49 and 4.54, $p=0.000$).

Self-Efficacy

Nearly all respondents (98%) felt confident in their ability to contribute to the interprofessional team (Table V). Respondents with doctoral degrees felt significantly more confident collaborating with providers from different disciplines and with providers who held lower academic degrees (5.69 and 4.80, $p=0.003$; 5.65 and 4.80, $p=0.005$). Overall, respondents of all degree levels believed their own level of academic degree and professional role was valuable to the team. However, respondents who held doctoral degrees were significantly more likely to agree that their level of academic degree and professional role were viewed as valuable by other professions than respondents with bachelor's and master's degrees (5.46 compared to 4.80 and 4.65, $p=0.011$; 5.28 compared to 4.60 and 4.19, $p=0.000$). When asked about the value of others, respondents with doctoral degrees tended to value the role of providers from different professions and providers with lower academic degrees more when compared to respondents who held bachelor's and master's degrees (5.64 compared to 5.00 and 5.27, $p=0.004$; 5.78 compared to 5.40 and 5.50, $p=0.008$).

Discussion

The goal of this pilot study was to examine whether differing academic degree levels influenced a health care provider's intention around IPC. Given the variety of degree levels on multidisciplinary health care teams, it is important to understand whether academic degree level has an impact on factors related to a provider's willingness to collaborate with others. Provider behavior and motivation can be challenging to quantify. Established behavior theory and question design assisted in providing context and measurable attributes associated with the collaborative behaviors. This study's findings provide further support that the level of academic degree has a positive association with IPC value and involvement, however for some health care providers with lower degree levels significant barriers persist to full participation in IPC activities.

Influence of Degree Level on Perceptions and Attitudes

The outcomes demonstrated that respondents of all academic degree levels and disciplines felt IPC is important to their profession and improving patient health outcomes. Significant differences in strength of agreement on the importance of IPC between respondents of different academic degree levels was demonstrated. Those with doctoral degrees

Table I. Respondent demographics (n=179)

Characteristics	n (%)	Characteristics	n (%)	Characteristics	n (%)
Gender		Academic Degree Level		Doctoral degree (continued)	
Male	78 (44.0)	Associate degree	0 (0.0)	Surgeon	3 (0.02)
Female	100 (56.0)	Bachelor's degree	7 (4.0)	Social Work	2 (0.01)
Prefer not to answer	1 (0.6)	Master's degree	30 (17.0)	Epidemiology	1 (0.01)
Age		Doctoral degree	142 (79.0)	Nursing (Anesthesiology)	1 (0.01)
Mean (SD)	49.5 (13.1)	Profession/Degree Breakdown		Occupational Therapy	1 (0.01)
Range	26-81	Associate degree		Ophthalmology	1 (0.01)
Profession		Bachelor's degree		Athletic Training	1 (0.01)
Dentistry (Dentist)	42 (23.0)	Dental Hygiene	5 (71.0)	Other	5 (0.04)
Medicine (Physician)	33 (18.0)	Nursing (RN)	2 (29.0)	Years in Practice	
Dentistry Dental Hygiene)	19 (11.0)	Master's degree		0-5	17 (10.0)
Physical Therapy	14 (8.0)	Dental Hygiene	14 (47.0)	6-10	34 (19.0)
Pharmacy	12 (7.0)	Social Work	6 (20.0)	11-15	26 (15.0)
Nursing (Registered Nurse)	11 (6.0)	Nursing	5 (17.0)	16-20	17 (10.0)
Nursing (Nurse Practitioner)	10 (6.0)	Physical Therapy	1 (0.03)	21-25	18 (10.0)
Social Work	7 (4.0)	Other	4 (13.0)	26 +	67 (37.0)
Anesthesiology	7 (4.0)	Doctoral degree		Primary Role	
Psychiatry	4 (2.0)	Dentistry (Dentist)	41 (29.0)	Practitioner/Clinician	83 (47.0)
Psychology	4 (2.0)	Medicine (Physician)	33 (23.0)	Educator	65 (37.0)
Medicine (Surgeon)	4 (2.0)	Pharmacy	12 (0.08)	Researcher	18 (10.0)
Nursing (Mid-Wife)	2 (1.0)	Physical Therapy	10 (0.07)	Administrator	11 (6.0)
Occupational Therapy	1 (0.6)	Nursing (NP)	8 (0.06)	Public Health	1 (0.5)
Nursing (Mid-Wife)	1 (0.6)	Nursing (RN)	8 (0.06)	Experience with IPE/IPC	
Ophthalmology	1 (0.6)	Anesthesiology	7 (0.05)	Yes	166 (93.0)
Athletic Training	1 (0.6)	Psychiatry	4 (0.03)	No	13 (7.0)
Other	5 (3.0)	Psychology	4 (0.03)		

felt stronger about the importance of IPC than those with master's or bachelor's degrees. This could suggest that faculty with higher degree levels have regular interaction with other health care providers, therefore, strengthening their belief that IPC is important. These results align with Miller et al., who found that higher educational level had a positive impact on IPC participation.⁵ This outcome could also suggest that those respondents with higher academic degrees had more confidence interacting with other health care providers, which would account for their positive perceptions of IPC.

Influence of Degree Level on Willingness to Collaborate

Attributes associated with willingness to collaborate can include desirability of the behavior, social or professional expectations, and the environment in which the behavior takes place. Respondents from all academic degree levels expressed attributes in favor of willingness to collaborate with health care providers with different levels of academic degrees. Those with doctoral degrees indicated they felt more strongly that the outcomes of collaborating were desirable (i.e., beneficial to the patient, pleasant for them, good use of their time, and useful)

Table II. Comparison between degree levels and perceptions and attitudes* (n=179)

Perceptions and Attitudes (Chronbach's alpha=0.537)	Bachelor's Degree		Master's Degree		Doctoral Degree		p<0.05
	n	mean	n	mean	n	mean	
Perceptions							
IPC is important for my profession.	7	5.14	28	5.75	130	5.76	0.046
IPC is important for improving patient health outcomes.	7	5.29	28	5.71	130	5.83	0.036
The level of a healthcare provider's academic degree is important for their profession.	7	5.29	28	4.61	130	4.89	0.282
The level of a healthcare provider's academic degree is important for improving patient health outcomes.	7	5.00	28	4.25	130	4.56	0.239
The level of a healthcare provider's academic degree is important for effective IPC.	7	4.29	28	3.82	130	3.79	0.675
I expect to collaborate with providers who have a different level of academic degree than me	6	5.00	28	5.64	129	5.40	0.184
I want to collaborate with providers who have a different level of academic degree than me	6	5.00	28	5.36	129	5.34	0.670
I intend to collaborate with providers who have a different level of academic degree than me	6	5.00	28	5.57	129	5.35	0.259
Desirability							
Collaborating with a team member who has a lesser academic degree than me is: <i>beneficial for the patient (1) or harmful for the patient (6)</i>	6	2.50	28	1.93	129	1.70	0.088
Collaborating with a team member who has a lesser academic degree than me is: <i>pleasant for me (1) or unpleasant to me (6)</i>	6	2.33	28	1.96	129	1.78	0.271
Collaborating with a team member who has a lesser academic degree than me is: <i>a good use of my time (1) not a good use of my time (6)</i>	6	2.83	28	1.96	129	1.77	0.018
Collaborating with a team member who has a lesser academic degree than me is: <i>useful (1) worthless (6)</i>	6	2.67	28	1.79	129	1.65	0.020
Comfort Taking Recommendations							
I am comfortable taking recommendations on patient treatment from a healthcare provider with a doctoral degree.	6	5.33	28	5.57	129	5.60	0.571
I am comfortable taking recommendations on patient treatment from a healthcare provider with a master's degree.	6	5.50	28	5.57	129	5.40	0.523
I am comfortable taking recommendations on patient treatment from a healthcare provider with a bachelor's degree	6	5.50	28	5.32	129	5.02	0.182
I am comfortable taking recommendations on patient treatment from a healthcare provider with an associate degree.	6	4.50	28	4.79	129	4.54	0.615

*1 = "Strongly Disagree"; 6 = "Strongly Agree"

Table III. Comparison between degree levels and norms* (n=179)

Norms (Chronbach's alpha=0.609)	Bachelor's degree		Master's degree		Doctoral degree		p<0.05
	n	mean	n	mean	n	mean	
It is expected of me to collaborate with healthcare providers from different disciplines.	6	4.00	27	4.85	128	5.18	0.067
People who are important to me want me to work collaboratively with healthcare providers from different disciplines.	6	4.67	27	4.96	128	5.03	0.806
I feel under professional pressure to work collaboratively with healthcare providers from different disciplines.	6	3.17	27	3.22	128	3.34	0.909

*1 = "Strongly Disagree"; 6 = "Strongly Agree"

Table IV. Comparison between degree levels and environmental factors* (n=179)

Environmental Factors (Chronbach's alpha=0.692)	Bachelor's degree		Master's degree		Doctoral degree		p<0.05
	n	mean	n	mean	n	mean	
I work in an environment that houses different healthcare providers.	5	5.00	26	4.77	123	5.35	0.060
I have administration support to collaborate with healthcare providers from other disciplines.	5	5.20	26	4.62	123	5.00	0.316
The complexity of my job makes it necessary for me to work collaboratively with healthcare providers from other health disciplines.	5	5.40	26	4.54	123	5.49	0.000

*1 = "Strongly Disagree"; 6 = "Strongly Agree"

than those respondents with bachelor's degrees. Azjen's TPB posits that the higher the degree of desirability, the higher the likelihood that person will participate in the behavior.¹¹

Further influencing the likelihood of a behavior is the TPB's construct of subjective norms. If a person feels positively about a behavior and thinks those who are important to him/her also value the behavior, their motivation to perform the behavior is much higher.¹¹ The construct of subjective norm was demonstrated by respondents feeling IPC is expected of them and people who are important to them want them to participate in IPC. Overall, respondents from all degree groups did not feel strong social or professional pressure to collaborate with health care providers outside their profession. Responses to norms questions were not strongly one directional. This could indicate that the construct of subjective norm does not have a great deal of influence on this behavior within this

study population. Other research contradicts this finding, however, reporting subjective norms do play an important role predicting behavior in other scenarios.¹⁴

The environment in which providers work and practice may influence their perceptions and attitudes towards IPC.¹² Respondents with master's degrees felt the least agreement with work environment questions related to working with other disciplines and professions, administrative support, and job complexity when compared to the other degree types. Most master's degree respondents in this study were registered dental hygienists. Because many dental hygienists work in clinical settings that require minimal face to face interaction with health care providers outside the field of dentistry, they may not feel that IPC is as necessary a part of their everyday clinical work environment.

Table V. Comparison between degree levels and self-efficacy* (n=179)

Self-Efficacy (Chronbach's alpha=0.879)	Bachelor's degree		Master's degree		Doctoral degree		p<0.05
	n	mean	n	mean	n	mean	
I am confident in my ability to contribute to the interprofessional team.	5	5.40	2	5.65	125	5.77	0.156
I believe my <i>professional role</i> is valuable within the interprofessional team	5	5.60	26	5.65	125	5.79	0.312
Healthcare providers from other disciplines believe my <i>professional role</i> is valuable within the interprofessional team.	5	4.60	26	4.19	125	5.28	0.000
I believe healthcare providers from other disciplines have a valuable <i>role</i> within the interprofessional team	5	5.40	26	5.50	125	5.78	0.008
My level of <i>academic degree</i> is valuable within the interprofessional team	5	5.00	26	5.23	125	5.46	0.199
Healthcare providers from other disciplines believe my level of <i>academic degree</i> is valuable within the interprofessional team.	5	4.80	26	4.65	125	5.22	0.011
Healthcare providers with a lesser <i>academic degree</i> than my own have a valuable role within the interprofessional team.	5	5.00	26	5.27	125	5.64	0.004
I am confident collaborating with healthcare providers from disciplines other than my own.	5	4.80	26	5.54	124	5.69	0.003
I am confident collaborating with healthcare providers who have a higher <i>academic degree</i> as me.	5	5.20	26	5.38	124	5.59	0.148
I am confident collaborating with healthcare providers who have a lesser <i>academic degree</i> as me.	5	4.80	26	5.54	124	5.65	0.005
I am confident collaborating with healthcare providers who have the same <i>academic degree</i> as me.	5	5.40	26	5.58	124	5.69	0.327

*1 = "Strongly Disagree"; 6 = "Strongly Agree"

Influence of Degree Level on Self-Efficacy

In general, respondents with bachelor's degrees felt slightly less confident collaborating with health care providers outside of their discipline and felt slightly less valued by other providers within the interprofessional team when compared to the respondents with master's and doctoral degrees. Although the groups with lower degree levels reported slightly less confidence in collaborating with others and felt less valued by others on the same interprofessional team, these respondents believed in the value of their own role and degree levels. Poor relational value, or not feeling valued by other members of the interprofessional team could be a major barrier to effective IPC. Relational value, inclusion, acceptance, and

self-esteem are all closely related. A meta-analysis by Harris et al. examined longitudinal social research and generally found that if an individual's perceived relational value is low, they will most likely also have low self-efficacy, and vice-versa.¹⁵ Additionally, higher academic degree levels may elicit more respect from other members of the interprofessional team. This increase in respect may play a role in high relational value and increased self-efficacy.

Previous research also identified the importance of professional identity and self-efficacy in a health care provider's ability to contribute to the interprofessional team. Sibandze et al. found that the higher the level of nursing education, the greater awareness of and application of their

professional values to patient care.⁶ With the master's degree respondents of this study answering slightly more confidently than bachelor's degree respondents, it could be hypothesized that health care providers with master's degrees are more confident than their colleagues with bachelor's degrees, indicating that providers with higher academic degrees could have increased self-efficacy.

Most respondents expressed positive feelings toward the behavioral theory constructs attributed to predicting behaviors which would indicate a willingness to participate in IPC activities. However, responses from all degree levels reported significantly less comfort in engaging in a key component of IPC; specifically, taking recommendations on patient treatment from a health care provider with an associate degree. Many health care professions, such as dental hygiene, nursing, and respiratory therapy, require a two-year, associate degree as the entry-level education for initial licensure. Although these health care providers have a valuable role within the interprofessional team, their education level may be a barrier to collaboration due to other providers' perceptions regarding the level of degree. These findings provide support for decades-long calls for a bachelor's degree as the minimum education level for entry into the dental hygiene profession.¹⁶⁻¹⁹ Advanced education could better prepare dental hygienists to more meaningfully contribute to patient care in diverse health care settings and establish parity among other members of the health care team.

Strengths and Limitations

A key strength of this study was the survey instrument which was designed to measure and score variables associated with the TPB and SCT. Such design provides quantitative evidence on factors that predict the likelihood of future behaviors, including what influences a health care providers' sense of self-efficacy and their willingness to collaborate with other health care providers. The study also included faculty from a wide range of health profession education programs.

Limitations include the self-reporting nature of the survey which could have introduced potential bias. This was a small-scale pilot study and respondents were all from the same academic institution and the results may not be representative of health profession faculty at other institutions. Another important limitation was that 80% of the respondents held a doctoral level degree and none of the respondents held an associate degree. At this institution faculty must hold a minimum of a bachelor's degree; and there were only seven bachelor's degree respondents in the sample which may have impacted the reliability of the results. This study sought to explore the influence of academic degree level on a provider's

perceptions of IPC and their willingness to collaborate using established behavioral constructs however the survey instrument did not control for other variables such as gender, age, race/ethnicity, or years in practice. It is possible these or other variables also have an impact on willingness to collaborate.

Future research should investigate why faculty report they value the role of health care providers with lower degrees but are less likely to seek collaboration or treatment recommendations from those providers. Researchers should explore interventions to promote provider participation in IPC that addresses behavioral factors related to provider attitudes, confidence, and intentions. Health professional faculty members play an integral role in preparing future health care providers for IPC. Currently there is a gap in the literature on how faculty perceptions of IPC could potentially influence their students' opinions of IPC; this should be examined in future studies. Future research should also investigate whether other factors such as gender, age, profession, number of years in practice, race/ethnicity, and primary role, influence health care providers' perception of IPC and willingness to collaborate.

Conclusion

Understanding and predicting behaviors is important to health care professionals tasked with developing interventions or policies that promote uptake of evidence-based practices such as IPC. While faculty valued IPC in improving patient outcomes, their perceptions of other health care providers' level of academic degree may play a role in their willingness to collaborate. Specifically, the lower level of comfort taking recommendations on patient care from a provider with an associate degree. With many health care education programs offering an associate degree, this could be viewed as a barrier for these health care providers to meaningfully contribute to the interprofessional team. Despite an institution's positive culture of IPC, potential bias and stereotypes regarding the level of academic degree should be addressed. Interventions that could improve willingness to collaborate include implicit bias training, cross training, as well as incorporating interprofessional learning experiences early during the health care education program.

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