

Interprofessional Education and Practice in Pharmacy Residency Training: A study of pharmacy institutional practitioner and resident perspectives

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Background

- **Interprofessionalism (IP):** Active collaboration and communication to ensure an appropriate exchange of information and coordination of care
- **Interprofessional Education (IPE):** Involving educators and learners from 2 or more health professions and their foundational disciplines who jointly create and foster a collaborative learning environment
- Increased collaboration between health professionals has been advocated and implemented as one way to improve health care delivery.^{1,2}
- Redesigning care and learning around IP/IPE principles should be based on evidence of enhanced care and learning.
- Accreditation standards in Canada for entry-to-practice, residents, and PharmD students, require IP/IPE, but do not prescribe specific competencies.
- Recently, the Centre for the Advancement of IPE (CAIPE) has defined such competencies in its Principles of Interprofessional Education.³
- No formal assessments of the degree to which IP and IPE as experienced by institutional pharmacists or pharmacy practice residents in British Columbia have yet been published.

1. Institute of Medicine, Committee on Quality of Health Care in America. Crossing the Quality Chasm: A New Health System for the 21st Century. National Academy Press, Washington, D.C. 2001.
 2. Institute of Medicine, Committee on Identifying Priority Areas for Quality Improvement. Priority Areas for National Action: Transforming Health Care Quality. Adams K, Corrigan JM, Eds. National Academy Press, Washington, D.C. 2003.
 3. Center for Advancement of Interprofessional Education (CAIPE). Available from: <http://www.caipe.org.uk>. Accessed February 9, 2011.

Objectives

- To measure, using validated indicators of IP and IPE, the degree to which institutional pharmacy practitioners self-assess their practice environment to be IP and the environment in which they precept residents to include IPE
- To measure, using validated indicators of IPE, the degree to which pharmacy practice residents perceive the environments in which they learn to include IPE
- To compare these perspectives and identify misconceptions/barriers to IP and IPE as well as opportunities for improvement

Methods

Design: Prospective observational electronic surveys followed by individual interviews.

Population: Non-preceptor pharmacists within LMPS (n=99) with a direct patient care role, preceptors (N=316) and residents (N=29) across BC.

Survey Instruments:

- Practitioners & Preceptors: Attitudes Towards Health Care Team Scale (ATHCTS) and Team Skills Scale (TSS)
- Preceptors: CAIPE Principles of Interprofessional Education Questionnaire. This survey was created by the investigators based on the CAIPE Principles of Interprofessional Education (2011).
- Residents: Readiness for Interprofessional Education Learning Scale (RIPLS) administered in December 2011, CAIPE Principles of Interprofessional Education Questionnaire in March 2012, after ample opportunity for exposure to IP/IPE.

Interviews: A randomly-selected convenience sample of survey participants completed semi-structured interviews to explore themes that emerged from survey results and to provide qualitative data based on personal perceptions and experiences.

Analysis: Survey results were analyzed using descriptive statistics for overall survey results and pre-specified subdomains of the respective surveys. Interview transcripts were analyzed by all the investigators to identify themes and to interpret the survey findings.

Negative-worded questions were reverse-scored and for Likert scale-based surveys, mean/median responses of 4 (agree) or greater were classified as "Positive" and 2 (disagree) or lower were classified as "Negative". For RIPLS, scores of 3 or lower were classified as "not prepared or receptive to IPE". For ATHCTS, scores of 3 or 4 were classified as "Positive" and 1 or 2 were classified as "Negative". For TSS, scores of 3 or greater were classified as "Positive" and 2 or lower were classified as "Negative".

Health Authority		Preceptors	Non-Preceptor Pharmacist	Residents
Preceptors	Residents			
IH	Province-Wide	RIPLS	N/A	N/A
LMPS		ATHCTS	29.4%	19.2%
NH		TSS	29.4%	19.2%
VIHA		CAIPE	22.2%	N/A
PHSA				79.3%

Table 1: Participant Demographics Table 2: Participant response rate to surveys and interviews

	Scoring System	Mean of Total Score
TSS	1 to 5: Poor, Fair, Good, Very Good, Excellent	3.72 (95% CI 3.62-3.83)
ATHCTS	1 to 4: Strongly Disagree, Disagree, Agree, Strongly Agree	3.07 (95% CI 3.02-3.12)
CAIPE (Preceptor)	Likert Scale	4.00 (95% CI 3.91 – 4.09)
CAIPE (Resident)	1 to 5: Strongly Disagree, Disagree, Undecided, Agree, Strongly Agree	3.80 (95% CI 3.59 – 4.00)
RIPLS		4.32 (95% CI 4.20 – 4.45)

Table 3: Scoring systems and means of total score from survey responses

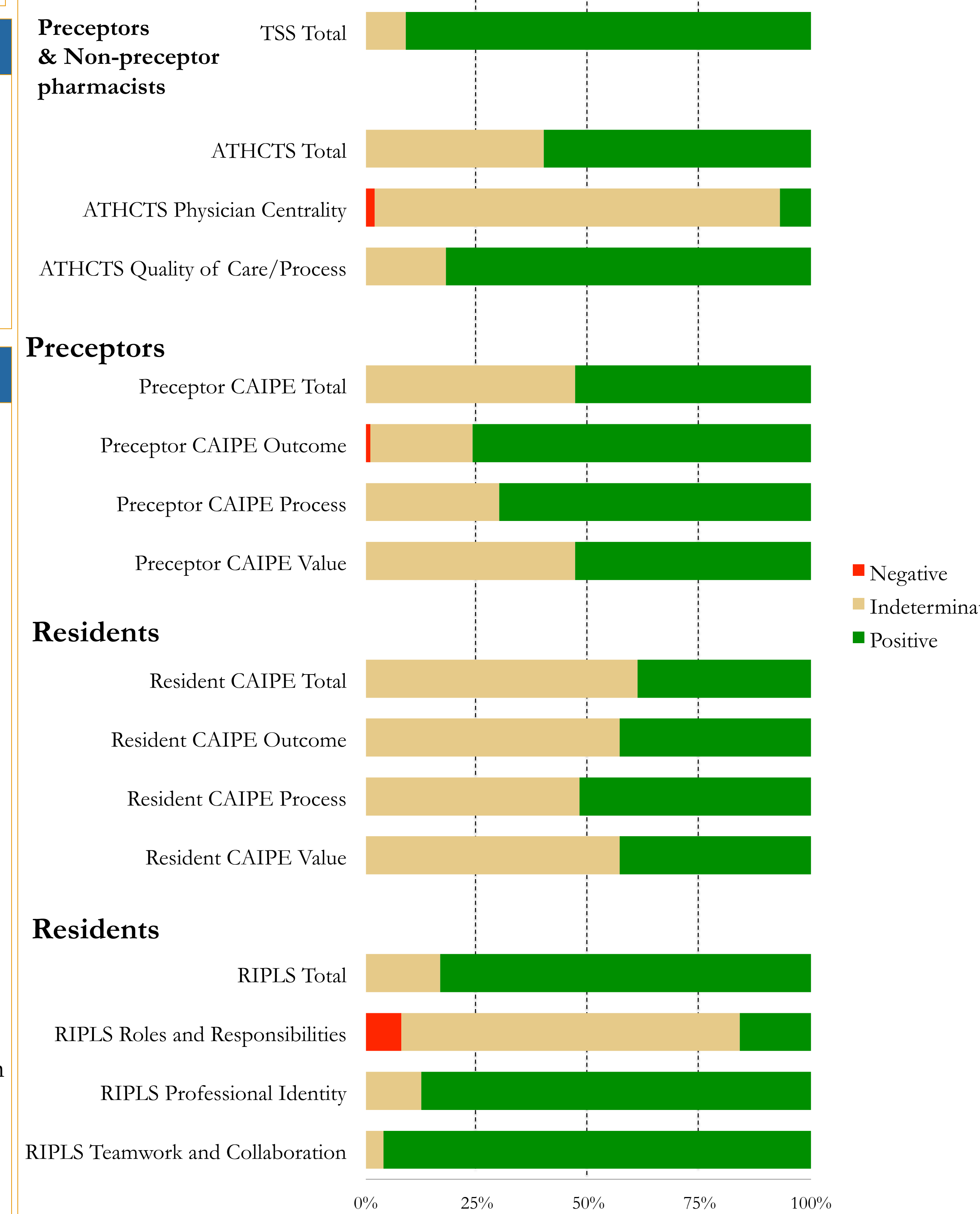


Figure 1: Average total results from individual surveys and their subscales

Results

- Responses (see Table 2 for response rates): Preceptors (n=114); Non-preceptor clinical pharmacists (n=19); Residents (n=25).
- Initial factor analysis was done for all surveys. KMO test >0.05 for all surveys (except RIPLS), indicating suitability for further factor analysis.
- Cronbach's Alpha was >0.7 for all surveys, indicating good reliability and internal consistency in survey questions.
- Interview Observations:
 - **Time and accessibility** factors: A common barrier to IP/IPE was the time limitation due to conflicting schedules and high individual patient workloads. This lowered accessibility of other health professions to pharmacists and vice versa, thus constraining IP/IPE opportunities.
 - There is a **positive association between hospital size and the amount of IP/IPE**. A larger hospital with a more multidisciplinary teams as well as a variety of teachers and learners appears to be conducive to more opportunities for IP/IPE.
 - The **prevalence of face-to-face interactions** in IPE: Having direct contact with other members of the health care team seems to be a crucial, defining component of IPE. Being able to put a face to the name and build relationships with other health professionals strengthens the belief that true IP/IPE is taking place.
 - Role of **teaching and learning in IP**: To pharmacy practitioners, IP in practice is not clearly distinguishable from IPE. The two terms are often used interchangeably when describing their thoughts on interprofessional collaboration.
 - Degree of **establishment and understanding of pharmacists' role in team** is positively associated with IP/IPE.
 - **Individual personality** impacts the quality and amount of IP/IPE which occurs.

Interpretations

TSS	▪ A majority of pharmacists (preceptor and non-preceptor) believe they have skills that are beneficial and appropriate for health care team collaboration.
ATHCTS	▪ Quality of Care/Process subscale indicates positive collaboration in the respondent's health care teams. ▪ Physician Centrality subscale was ambiguous, so we are unable to infer the impact of this factor on IP health care teams. Scoring in this subscale would decrease if shared participation and leadership among team members is emphasized and applied in daily practice.
CAIPE	▪ Preceptors are in the most agreement with Outcomes subscale of IPE principles (enhances practice within profession, informs joint action, and improves outcomes for patients, families, and communities) whereas fewer residents feel as strongly about these principles. ▪ Residents are in more agreement with the processes needed to achieve IPE than with IPE outcomes and values.
RIPLS	▪ Residents are ready and receptive to working in teams and collaborating with other health professionals. ▪ Residents have a good sense of professional identity within the health care team but have less understanding of their roles and responsibilities in a multidisciplinary setting.

Conclusions

- The majority of preceptors and non-preceptor clinical pharmacists believe that they have the skills necessary to work collaboratively in a health care team environment and their attitudes towards health care team collaboration is positive.
- Compared to residents, more preceptors self-assess their practice environment to be conducive to IPE. Whether there is a mismatch between preceptors' and residents' perceptions about this deserves further study.
- Residents are receptive and prepared for IPE at entry to residency, but by 9 months into their program, more than half report having experienced IPE that does not comply with the CAIPE IPE principles.
- Barriers to IP/IPE include: time constraints on interaction with other health professionals & lack of understanding of pharmacists' roles on the health care team. Individual pharmacists' commitment to developing their own role on the team is important for overcoming barriers.

Next Steps

- Factor analysis on all surveys that were amenable based on the KMO test. In particular, more detailed analysis and validation can be done for the CAIPE survey, a new tool created for this study.
- Consider implementing steps to enhance IPE experiences in the residency program via preceptor education and establishing IPE-specific competencies for residents.
- Longitudinal monitoring of:
 - Attitudes towards interdisciplinary health care teams with the ATHCTS
 - Degree of IPE in practice/training environment based on competencies from CAIPE

