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

Bonnie Wong, B.Sc.(Pharm.); Peter Loewen, B.Sc.(Pharm.), ACPR, Pharm.D.; Melvin Lau B.Sc.(Pharm.)

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.

Methods

Design: Prospective observational electronic surveys followed by individual interviews.
Population: Non-preceptor pharmacists within LIMS (n=29) with a direct patient care role, preceptors (N=216) and residents (N=29) across BC.
Survey Instrumentation:
• 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 values.

Results

• Response rate (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 >0.5 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 interacting in IP/IPE: Having direct contact with other members of the health care team seems to be crucial, defining components of IP/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/IPE: To pharmacy practitioners, IP in practice is not clearly distinguishable from IP/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 perceptions: impact the quality and amount of IP/IPE which occurs.

Interpretations

• A majority of pharmacists (preceptor and non-preceptor) believe they have skills that are beneficial and necessary for health care teams.
• A positive association between hospital size and the amount of IP/IPE which occurs.
• Degree of establishment and understanding of pharmacists’ role in team is positively associated with IP/IPE.

Conclusions

• The majority of pharmacists believe 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 pharmacists self-assess their practice environment to be conducive to IP/IPE. Whether there is a mismatch between preceptors’ and residents’ perceptions about this deserves further study.
• Compared to residents, more preceptors self-assess their practice environment to be conducive to IP/IPE. Whether there is a mismatch between preceptors’ and residents’ perceptions about this deserves further study.
• Residents are receptive and prepared for IP/IPE at entry to residency, but in 9 months into their program, more than half report having experienced IP/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’ role on the health care team.

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 IP/IPE experiences in the residency program via preceptor education and establishing IP/IPE-specific competencies for residents.

Longitudinal monitoring:
• Attitudes towards interprofessional health care teams with the ATHCTS
• Degree of IP/IPE in practice/training environment based on competencies from CAIPE.

Table 1: Participant Demographics

<table>
<thead>
<tr>
<th>Demographic</th>
<th>Preceptors</th>
<th>Residents</th>
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</thead>
<tbody>
<tr>
<td>Gender</td>
<td>Male: 70%</td>
<td>Male: 55%</td>
</tr>
<tr>
<td>Year of Practice</td>
<td>2012</td>
<td>2012</td>
</tr>
<tr>
<td>Location</td>
<td>West BC</td>
<td>East BC</td>
</tr>
<tr>
<td>Preceptor</td>
<td>Yes: 50%</td>
<td>No: 29%</td>
</tr>
</tbody>
</table>

Table 2: Participant response rates to surveys and interviews

<table>
<thead>
<tr>
<th>Survey</th>
<th>Preceptors</th>
<th>Residents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preceptor CAIPE</td>
<td>93%</td>
<td>87%</td>
</tr>
<tr>
<td>Preceptor ATHCTS</td>
<td>95%</td>
<td>83%</td>
</tr>
<tr>
<td>Preceptor RIPLS</td>
<td>94%</td>
<td>87%</td>
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Table 3: Scoring systems and means of total score from survey responses

<table>
<thead>
<tr>
<th>Scoring System</th>
<th>TSS Total</th>
<th>ATHCTS Total</th>
<th>ATCCS Physician Centrality</th>
<th>ATCCS Quality of Care/Process</th>
<th>Preceptors RIPLS Total</th>
<th>Preceptors RIPLS Role and Responsibilities</th>
<th>Preceptors RIPLS Professional Identity</th>
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</thead>
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<tr>
<td>Mean Score</td>
<td>4.32</td>
<td>4.00</td>
<td>3.80</td>
<td>4.00</td>
<td>3.33</td>
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</tr>
<tr>
<td>95% CI</td>
<td>4.20 – 4.45</td>
<td>3.91 – 4.19</td>
<td>3.59 – 4.01</td>
<td>3.91 – 4.19</td>
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Table 4: Comparison of scoring systems and means of total score from survey responses

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