

Assessment of the Impact of a Tiered Precepting Model on Pharmacy Undergraduate Student and Pharmacy Practice Resident Learning and on the Preparedness of New Clinical Pharmacists to Precept Pharmacy Learners

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Background

- In pharmacy practice-based education in British Columbia, the most common preceptor-learner model is the one preceptor to one learner model. Some sites use novel models.
- Tiered precepting is a novel model that involves a senior learner who coaches, mentors and supervises a junior learner while providing patient care. All learners are supervised by a clinical pharmacist.
- Tiered precepting allows for peer-assisted learning, allows the senior learner to develop teaching and precepting skills, increases preceptor efficiency and rotation site capacity, and may help to better prepare future preceptors.
- In Interior Health and Northern Health, pharmacy residents complete a two or four week precepting skills rotation, where they are paired with a pharmacy undergraduate student completing his/her hospital rotation using the tiered precepting model.
- The impact of this tiered model on pharmacy resident and student learning and impact of the tiered model on the preparedness of new clinical pharmacists to precept are currently not known.

Objectives

- Describe the impact of participating as learners in a tiered precepting model on pharmacy resident and pharmacy student learning
- Describe the impact of participating as pharmacy resident learners in a tiered precepting model on the preparedness of clinical pharmacists to precept subsequent pharmacy learners

Methods

Design

- Prospective, observational study via three electronic surveys to (1) pharmacy residents, (2) pharmacy undergraduate students and (3) clinical pharmacists
- Survey respondents rated level of agreement to each statement using a 5-point Likert scale, from strongly disagree to strongly agree

Primary outcome

- % of pharmacy practice residents who respond agree or strongly agree to each survey statement regarding the positive and negative impacts of the tiered model on their learning

Secondary outcomes

- % of pharmacy undergraduate students who respond agree or strongly agree to each survey statement regarding the positive and negative impacts of the tiered model on their learning
- % of clinical pharmacists who respond agree or strongly agree to each survey statement regarding the impact of participating as a pharmacy resident in the tiered model on their preparedness to precept subsequent pharmacy learners

Definitions

- Pharmacy Practice Resident:** Participated in a precepting skills rotation in Interior Health or Northern Health, January to April 2015
- Pharmacy Undergraduate Student:** A UBC E2P student who completed a hospital rotation (Phar 489), using the tiered precepting model in Interior Health or Northern Health, January to April 2015
- Clinical Pharmacist:** Participated as a pharmacy resident in a precepting skills rotation in Interior Health or Northern Health, June 2011 to June 2014, and has precepted ≥ 1 pharmacy learner post-residency

Table 1. Characteristics of Survey Respondents

Pharmacy Practice Residents	N (%)
Survey Response	6 (100)
Precepting Skills Rotation in Interior Health	4 (66)
Student Preceptorship Rotation in Northern Health	2 (33)
Novel Precepting Models used during Residency	
Tiered Model (in addition to precepting rotation)	0 (0)
Multi-Learner Model (≥ 2 learners: 1 preceptor)	6 (100)
Shared Model (≥ 2 learners: >1 preceptors)	2 (33)
Pharmacy Undergraduate Hospital Rotation with Tiered Model	1 (17)
Pharmacy Undergraduate Students	N (%)
Survey Response	4 (80)
Pharmacy 489 Rotation in Interior Health	3 (75)
Pharmacy 489 Rotation in Northern Health	1 (25)
Clinical Pharmacists	N (%)
Survey Response	8 (73)
Precepting Skills Rotation in Interior Health	4 (50)
Student Preceptorship Rotation in Northern Health	4 (50)
Precepted Before Residency	3 (37)
Precepted After Residency	
Pharmacy Undergraduate Students Only	2 (25)
Pharmacy Resident and Undergraduate Student	6 (75)

Table 2. Negative Impact of Tiered Precepting Model on Learning

Pharmacy Practice Resident Responses (N=6)		Agree (%)
Resident's Learning Goals	Difficulty balancing student's needs with own	50
	Inhibited from achieving own educational goals	17
	Limited access to clinical pharmacist preceptor	0
Workload	Difficulty incorporating student's learning needs	17
	Productivity and efficiency decreased	67
	Impeded ability to provide patient care	33
Attitudes & Behaviours	Increase resident stress	67
	Lowered resident confidence	0
	Stress from challenging or difficult student	50
Pharmacy Undergraduate Student Responses (N=3) ^a		Agree (%)
Student's Learning Goals	Resident lacked knowledge	0
	Not focused on own learning goals	33
	Limited access to clinical pharmacist preceptor	33
Attitudes & Behaviours	Lowered student confidence	0
	Stress from challenging or difficult resident	33
	Contributions not valued by resident	0

^a N=3. One respondent did not complete this section of survey

Figure 1. Positive Impact of Tiered Precepting Model on Learning

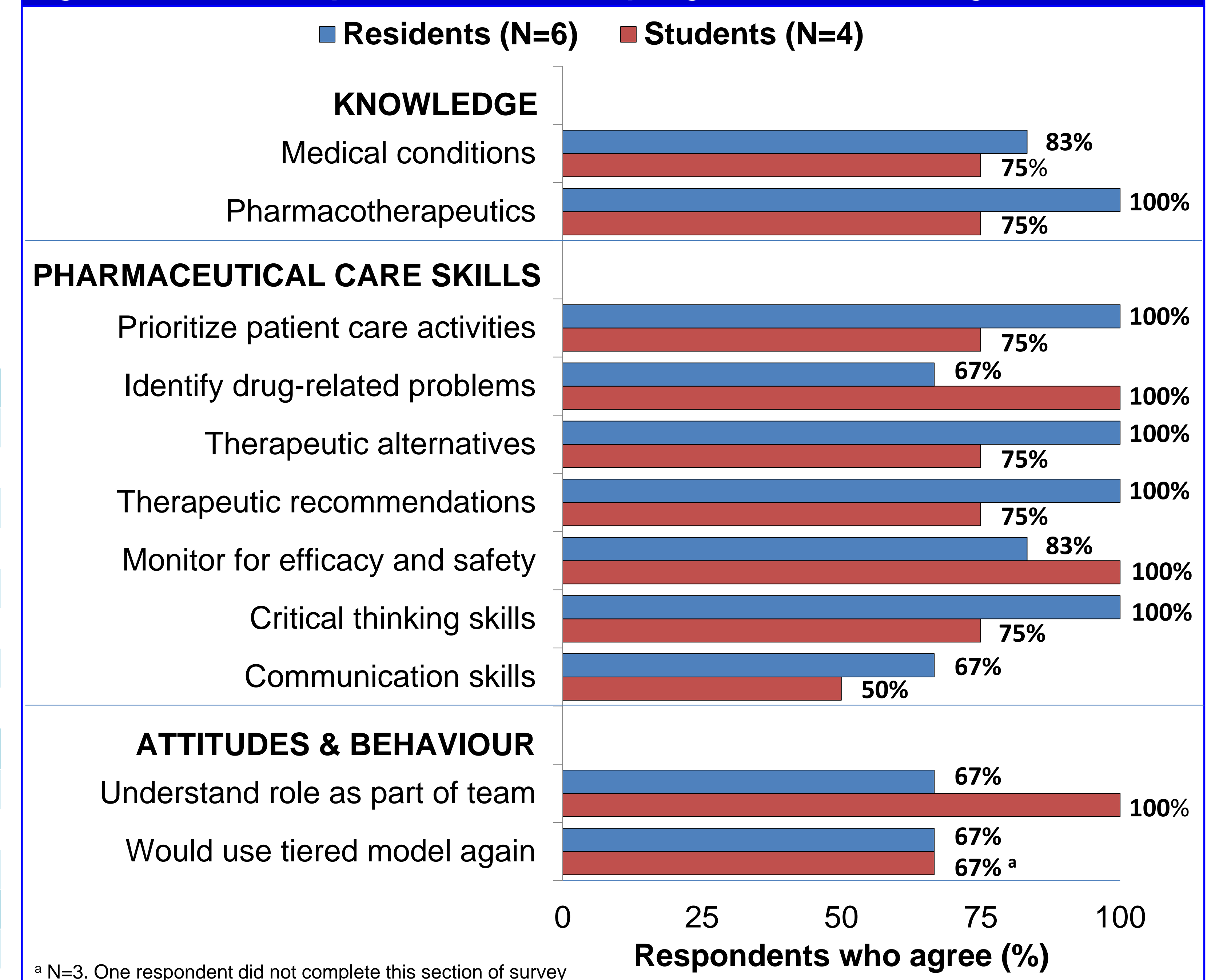


Table 3. Impact of Tiered Precepting Model on Residents' Precepting Skills

Pharmacy Practice Resident Responses (N=6)		Agree (%)
Enhanced Precepting Skills by	Opportunities for direct instruction	100
	Opportunities for role modeling	100
	Opportunities for coaching	100
	Increasing ability to prioritize precepting activities	83

Table 4. Preparedness of Clinical Pharmacists to Precept Pharmacy Learners

Clinical Pharmacist Responses (N=8)	When Precepting	
	Residents	Students
Tiered precepting model enhanced their ability to	Agree (%)	Agree (%)
Maintain productivity/efficiency	100	100
Tailor rotation activities to learner's goals	100	100
Stimulate critical thinking, problem solving in learner	100	100
Support struggling learner	50	63
Integrate learner into practice	100	88

Limitations

- Small sample size; responder bias; reliance on memory recall

Conclusions

- Pharmacy residents and students felt that the tiered precepting model positively impacted learning, and clinical pharmacists felt that it enhanced precepting preparedness. Future research will determine how to effectively use the tiered model in other residency rotations and to provide more support to new preceptors.

