

# Effectiveness of a Core-Competency-Based Program on Resident's Learning and Experience – Preliminary Results in a Care of the Elderly Program

Lesley Charles, MBChB; Jean Triscott, MD; Bonnie Dobbs, PhD; Jasneet Parmar, MBBS; Peter Tian, MD, MPH

Division of Care of the Elderly, Department of Family Medicine, University of Alberta

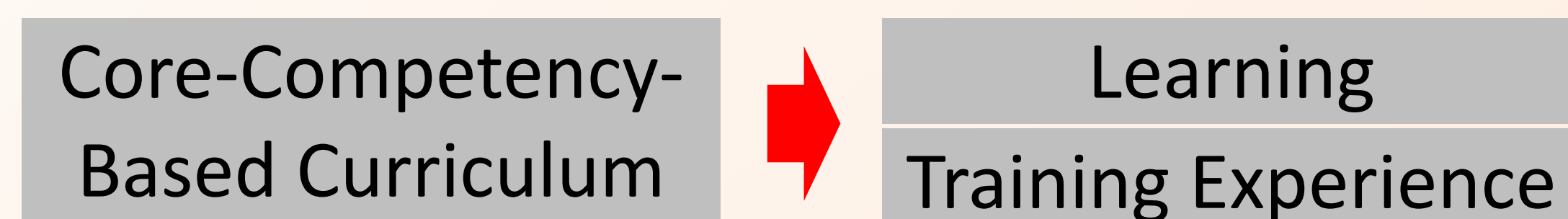
Corresponding Author: Dr. Lesley Charles ([Lcharles@ualberta.ca](mailto:Lcharles@ualberta.ca))



**Key Point.** The development and implementation of core competencies may strengthen residency training. Residents in a core-competency-based program have a more positive learning experience.

**Background.** The Care of the Elderly (COE) Diploma Program is a six-to-twelve-month enhanced skills program taken after 2 years of core residency training in Family Medicine. In 2010, we developed and implemented a core-competency-based COE Diploma program to improve residents' learning and training experience.

**Objective.** To assess the effectiveness of the core-competency-based program on residents' (1) learning, and (2) rating of their training experience.



**Design.** Pre-test-post-test design, comparing outcome measures among residents who graduated from the program in two periods: (1) before and (2) during the implementation of the core-competency-based program.

**Setting.** COE program, Department of Family Medicine, University of Alberta

**Participants.** All residents in the COE program from 2007- 2013: 9 and 8 residents before and during implementation, respectively.

Educational-Objectives-Based Program			Core-Competency-Based Program			
2007	2008	2009	2010	2011	2012	2013
COE Residents 2007-2009 (n=9)			COE Residents 2010-2013 (n=8)			

**Intervention.** The implementation of a core-competency-based COE Diploma program.

**Main Outcome Measures.** (1) Residents' learning, as measured using the preceptors' evaluation of the residents' skills/abilities throughout the training program; and (2) Graduates' training experience, as measured using the graduates' ratings of the program on a graduates questionnaire.

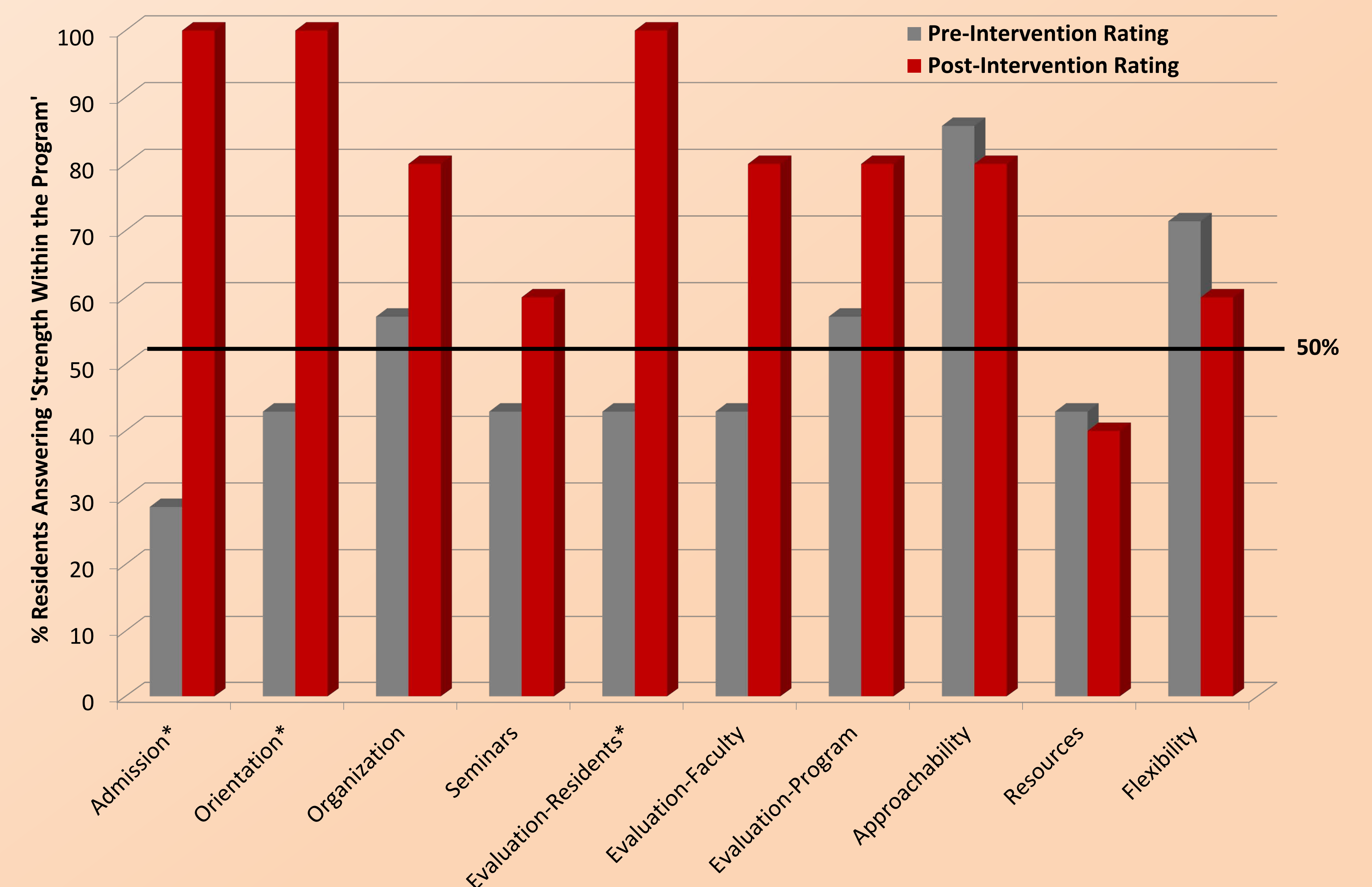
**Results.** Learning was rated highly in both periods. Residents in the competency-based program earned higher learning ratings on 73% of objectives and for all CanMEDS roles. However, the increase did not reach significance due to a ceiling effect (e.g., High scores on all CanMEDS roles; See Table 1).

Table 1. Residents' scores on CanMEDS roles.

CanMEDS Role	Resident	Mean Aggregate Scores	Standard Deviation	P-value
The Family Medicine Expert	Pre-intervention (n=9)	68.63	6.48	0.67 <sup>NS</sup>
	Post-intervention (n=8)	70.01	6.63	
Communicator/ Collaborator/ Manager	Pre-intervention (n=9)	34.21	3.41	0.44 <sup>NS</sup>
	Post-intervention (n=8)	35.52	3.41	
Professional/Advocate	Pre-intervention (n=9)	30.37	2.28	0.72 <sup>NS</sup>
	Post-intervention (n=8)	30.85	3.05	
Scholar	Pre-intervention (n=9)	24.86	2.21	0.56 <sup>NS</sup>
	Post-intervention (n=8)	25.59	2.83	
TOTAL	Pre-intervention (n=9)	158.07	14.01	0.59 <sup>NS</sup>
	Post-intervention (n=8)	161.98	15.15	

NS, Not Significant

Pre-intervention, only one out of nine program components was considered a strength by 50% of the residents. Post-intervention, eight components were considered strengths by 50% of the residents, with following components rated significantly higher: admission process (p=0.01), orientation to the program (p=0.04), evaluation process (p=0.04).



Care of the Elderly Diploma Program Components (\*indicates significant difference)

Figure 1. Percentage of residents who responded Strength within the program.

**Conclusion.** The implementation of a competency-based program in a COE Diploma program appears to improve resident learning and training experience.