Are Nonphysician Health Care Providers Prepared and Supported to Teach in Family Medicine?

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BACKGROUND AND OBJECTIVES: Understanding how nonphysician health care providers (NPHCPs) teach medical trainees is integral to optimizing family medicine education. The objective of this study was to examine the teaching roles, level of preparation and support, and the challenges encountered by NPHCPs.

METHODS: A cross-sectional web-based survey of NPHCPs was conducted across academic teaching units affiliated with the University of Toronto's Department of Family and Community Medicine (DFCM). The level of preparation for educational roles, perceived support, challenges encountered, and educational training needs of NPHCPs were examined. Variables associated with preparedness to teach were also identified.

RESULTS: Of the 193 NPHCPs surveyed, 166 (86%) completed the questionnaire. A total of 126 (82%) of NPHCP educators (nurses, social workers, dietitians, and pharmacists) reported teaching medical trainees. Most did not hold faculty appointments. The majority had no formal training in teaching, and less than half felt prepared for their academic responsibilities. NPHCPs perceived a lack of support for their teaching. NPHCPs also identified predictable challenges such as lack of time and lack of funding. Challenges specific to cross-professional teaching were also identified. NPHCPs expressed an interest in receiving continuing education to improve their teaching skills. NPHCPs' self-reported level of preparedness to teach was variable and associated with years of teaching experience, information received about trainees, challenges faced, and continuing education needs.

CONCLUSIONS: NPHCPs are extensively involved in teaching medical trainees. There is variability in their preparation level, and they encounter significant challenges. To advance effective and sustainable inter-professional education (IPE) within family medicine, addressing these issues is crucial.

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Recent health care reform has focused on collaborative inter-professional teamwork to enhance access, expand services, increase efficiency of primary care, and improve patient outcomes.[1,2] Consequently, these new team-based models of care affect the delivery of medical education in primary care settings. The Canadian College of Family Physicians and the Accreditation Council for Graduate Medical Education include effective team-based functioning as a core competency for trainees.[3,4] As Hebert explains, "Changing the way health providers are educated is key to achieving system change."[5] The influx of nonphysician health care providers (NPHCPs) into academic primary care teams has created opportunities for them to participate in teaching medical trainees and has implications for medical education. The academic competencies required of physician educators and NPHCPs involved with inter-professional education (IPE) has been well-documented.[6,7] However, there is little research on how these

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competencies are acquired by educators.[8,9] The underlying assumption is that NPHCPs working in academic teaching centers are able and prepared to teach.

The implementation of IPE and cross-professional teaching within primary care settings is still evolving and continues to pose significant challenges. Numerous organizational, accountability, and attitudinal challenges are associated with IPE initiatives.[10,11] Both individual and institutional barriers impeding the implementation of IPE have been identified in the literature.[12-14]

There is little information on how to best prepare educators for interprofessional teaching, despite the recognition that "Staff development to enable competent and confident facilitation of interprofessional learning is a key mechanism for effective IPE."[15] Experts suggest that "Unless academic settings are developed to provide the necessary training for primary health care professionals to work as teams, a new generation of health care professionals will continue to work in status quo environments, and reform initiatives are unlikely to become sustainable over time."[1]

Despite the growing number of NPHCPs within primary care settings, data examining the roles and extent of their involvement in cross-professional teaching is limited. The primary objective of this study was to examine the academic roles, preparation level, and challenges faced by NPHCP educators in the largest family medicine training program in Canada. A secondary objective was to identify variables associated with NPHCPs' preparedness to teach medical trainees in academic primary care settings.

Methods

Survey Instrument

The survey was developed based on a review of the past decade's IPE and academic family medicine teaching literature. Several iterations were reviewed for content validity by faculty members at the University of Toronto with expertise in staff development and IPE, survey methods, and biostatistics. The questionnaire was designed to collect information about NPHCPs' level of preparation, perceived level of support received for teaching, the challenges they faced as educators, and their self-reported educational training needs. The questionnaire collected information about their professional background, length of time in educational role, university faculty appointment status, types of trainees taught, types of education training received and self-reported preparedness as an educator in various educational roles. The questionnaire also collected information about provision of supporting information about trainees, level of support received from employers, challenges experienced and their perceived level of importance, interest in continuing education, and preferred methods of learning.

Participant Recruitment and Survey Implementation

The questionnaire was distributed to all NPHCPs identified from departmental lists of faculty and staff across 14 University of Toronto's Department of Family and Community Medicine's (DFCM) affiliated teaching units and four rural sites. A modified Dillman approach was used for survey implementation.[16] An introductory letter outlining the purpose of the study and invitation to participate was distributed by unit executive directors and administrative assistants. All NPHCPs, regardless of participation, were given a small gift card prior to receiving an e-mailed link with confidential access to an online survey (SurveyMonkey platform) in November 2010. Three follow-up reminders were e-mailed to nonrespondents on a bi-weekly basis. The survey was closed on December 31, 2010. Respondents were also asked to provide their name and contact information, if they were willing to participate in future focus group discussions.

Data Analysis

Descriptive statistics were computed for all variables, including frequency counts and percentages for categorical variables or means and standard deviations for continuous variables. The outcome variable "preparedness" was derived from the question "Overall, how prepared do you feel for your role as educator?" The responses "very well prepared" or "well prepared" were categorized as being "prepared," whereas, "somewhat prepared" or "not very well prepared" were categorized as "not prepared." To identify variables associated with NPHCPs' preparedness to teach medical trainees, the chi-square test, or when appropriate, Fisher's exact test was used. Odd ratios (ORs) and 95% confidence intervals (CIs) were also reported for each variable. *T* tests were used to compare continuous variables between those who reported being prepared versus those not prepared for teaching. A probability level of <0.05 was used to determine statistical significance. Ethics approval was obtained from the University of Toronto Research Ethics Board.

Results

Of the 193 NPHCPs surveyed, 166 completed questionnaires, giving a response rate of (86.0%). Among respondents, 153 (92.2%) were involved in teaching, and 126 (82.4%) specifically reported teaching medical trainees (ie, family medicine residents, clinical clerks, pre-clerkship medical students, clinical fellows, international medical graduates, and staff physicians). The results section focuses on an analysis from these 126 participants. Table 1 provides information on participants' faculty status, current position, and years of experience in an academic role. Most of the educators were registered nurses, followed by social workers, registered dietitians, and pharmacists. Only 18.0% of respondents (n=23) involved in teaching medical trainees held a faculty appointment within the DFCM, and 15 others had faculty appointments

Table 1: Characteristics of Nonphysician Health Care Providers Involved in Teaching Medical Trainees*

Characteristic	Number (%)
Faculty status in the Department of Family and Community Medicine (n=126)	
Lecturer, status only**	18 (14.3)
Lecturer	4 (3.2)
Assistant professor	1 (0.8)
Associate professor	—
Professor	—
Pending	4 (3.2)
None	99 (78.6)
Faculty appointment in any other department (n=114)	
Yes	15 (12.1)
No	99 (87.9)
Current position (n=110)	
Chiropodist	3 (2.7)
Chiropractor	1 (0.9)
Mental health worker	1 (0.9)
Nurse practitioner	6 (5.5)
Occupational therapist	3 (2.7)
Pharmacist	11 (10.0)
Physiotherapist	1 (0.9)
Registered dietitian	13 (11.8)
Registered nurse	52 (47.3)
Social worker	14 (12.7)
Other	5 (4.5)
Number of years in current position or similar academic role (n=106)	
Less than 5 years	54 (50.9)
5 years or longer	52 (49.1)
Mean number of years (standard deviation)	8.2 (9.1)
Min/Max	0.5/40.0

* Includes: family medicine residents, clinical clerks, pre-clerkship medical students, clinical fellows, international medical graduates, other medical trainees, physicians in practice.

** "Lecturer, status only" refers to non-salaried appointment given to nonphysicians. This is similar to the "Adjunct" appointment given to physician educators in similar situations.

elsewhere. Only two thirds of participants reported they were made aware that they were going to teach medical trainees when they were first hired.

When NPHCPs were asked what types of training they received to be an educator, the two most frequent responses were "conferences or workshops related to education" (55.6%) and "university or college courses" (34.1%). Less than 20.0% of respondents had participated in continuing education sessions offered through the Faculty of Medicine. Only 50.0% of NPHCPs reported feeling well or very well prepared to teach, and there was a high degree of variability in how prepared they were for specific teaching roles (Table 2). Most felt prepared for one to one teaching (79.5%) and providing feedback (67.5%), while far fewer felt prepared for curriculum development (21.3%) and e-learning (19.4%). Almost 70% of participants expressed interest in pursuing continuing education (CE) activities to further develop their teaching skills. Participants indicated that they would very likely

Table 2: Nonphysician Health Care Providers' Perceived Level of Preparedness (Well or Very Well Prepared) for Various Educational Roles (n=126)*

Type of Educational Role	Number** (%)
Teaching one to one	93/117 (79.5)
Providing feedback	79/117 (67.5)
Clinical supervision	71/109 (65.1)
Small-group facilitation	69/119 (58.0)
Final evaluation	57/110 (51.8)
Dealing with conflict	57/119 (47.9)
Formative (ongoing) assessment	52/109 (47.7)
Lecturing/formal presentation	53/120 (44.2)
Curriculum development	23/108 (21.3)
E-learning	20/103 (19.4)

* Not all 126 participants responded regarding all of the types of educational roles.

** Denominators varied due to numbers of people indicating the activities were not applicable or did not respond.

attend sessions on dealing with conflict (41%), lecturing/formal presentation (33%), providing feedback (32%), teaching 1:1 (31%), small-group facilitation (29%), clinical supervision (28%), e-learning (28%), curriculum development (25%), ongoing assessment (22%), and final evaluation (21%).

In terms of perceived support by their employer for teaching, the data showed that less than half of the NPHCPs felt very supported for these activities. The highest support was reported for time for teaching (40.4%), continuing education (36.9%), and time for documentation and evaluation (31.8%). Lower levels of support were reported for preparation time (28.4%), recognition (22%), information about teaching role (18.9%), and financial stipend (10.6%).

NPHCPs expressed numerous challenges in their teaching roles (Table 3). Over half indicated that lack of time, lack of funding, required time commitment to teach (including [but not limited to] continuing education, preparation, and evaluation) and lack of adequate background information about learners were challenges. Perceived lack of importance by learners for NPHCP role was also identified.

A series of bivariate analyses were carried out to identify variables associated with NPHCPs' preparedness as educators for medical learners (Table 4). These variables included years of teaching experience and availability of information about learners. NPHCPs with 5 or more years of teaching experience were 3.37 times as likely to report feeling prepared than those with less experience. NPHCPs who were always given information about their learners, and who found this information

Table 3: Challenges Faced by Nonphysician Health Care Providers in Their Teaching Roles

Potential Challenge	Number* (%)
Lack of time for teaching trainees**	65/106 (61.3)
Lack of funding for teaching time	61/105 (58.1)
Required time commitment to teach***	61/106 (57.5)
Lack of adequate background information of learners and their scope of practice	54/106 (50.9)
Perceived lack of importance by the learners of IHP role	49/107 (45.8)
Burnout	47/103 (45.6)
Lack of training for medical education	46/105 (43.8)
Lack of recognition for academic work	46/105 (43.8)
Institutional culture	44/103 (42.7)
Lack of adequate scope of practice to educate health care professionals from other disciplines	40/104 (38.5)
Lack of educational resources	37/104 (35.6)
Perceived lack of importance/relevance by the administration	37/107 (34.6)

* Denominators varied due to item non-response.

** Lack of time for teaching trainees refers to time in day-to-day activities allotted to teach.

*** Required time commitment to teach refers to the many activities required to be an educator including (but not limited to) continuing education, preparation, and evaluation.

Table 4: Variables Statistically Associated With Nonphysician Health Care Providers' Preparedness in Their Role as Educator*

Variable	Level of Preparedness**		*P* Value	Odds Ratio	95% CI
	Prepared # (%)	Not Prepared # (%)			
NPHCP's Experience					
Number of years in current position or similar academic role (n=105)					
Less than 5 years	18 (34.0)	35 (66.0)		1.00	—
5 years or longer	33 (63.5)	19 (36.5)	.002	3.37	1.52, 7.52
Mean number of years	10.96	5.62			
Min/Max	0.5/40	0.5/35	.002	—	—
Information Received About Medical Trainees					
Frequency provided information about learners (n=119)					
Rarely/never	39 (44.8)	48 (55.2)		1.00	—
Always/sometimes	23 (71.9)	9 (28.1)	.009	3.15	1.34, 7.70
Usefulness of the information provided about their learners (n=105):					
Not at all to somewhat useful	37 (47.4)	41 (52.6)		1.00	—
Very useful	19 (70.4)	8 (29.6)	.040	2.63	1.03, 6.72
Challenges Faced					
Challenged by a lack of adequate background information of learners and their scope of practice (n=106):					
No	33 (63.5)	19 (36.5)		1.00	—
Yes	21 (38.9)	33 (61.1)	.011	0.37	0.17, 0.80
Challenged by a lack of training for medical education (n=105)					
No	37 (62.7)	22 (37.3)		1.00	—
Yes	16 (34.8)	30 (65.2)	.005	0.32	0.14, 0.71
Challenged by a lack of adequate scope of practice to educate health care professionals from other disciplines (n=104)					
No	37 (57.8)	27 (42.2)		1.00	—
Yes	15 (37.5)	25 (62.5)	.044	0.44	0.20, 0.98
Continuing Education Needs					
Interest in participating in a continuing education activity focused on further developing teaching skills (n=112):					
No/unsure	23 (65.7)	12 (34.3)		1.00	—
Yes	34 (44.2)	43 (55.8)	.03	0.41	0.18, 0.95
Likelihood of attending continuing education that focused on dealing with conflict (n=102):					
Not very/not at all likely	13 (76.5)	4 (23.5)		1.00	—
Fairly/very likely	36 (42.4)	49 (57.6)	.01	0.23	0.07, 0.75
Likelihood of attending continuing education that focussed on e-learning (n=100):					
Not very/not at all likely	9 (31.0)	20 (69.0)		1.00	—
Fairly/very likely	38 (53.5)	33 (46.5)	.04	2.56	1.03, 6.39

* n=126

** Where "prepared" represents those who indicated they were either very well or well prepared and "not prepared" represents those who indicated they were either somewhat prepared or not very well prepared.

useful were 3.15 and 2.63 times, respectively, more likely to feel prepared to teach than those who were not.

Other variables that were inversely related with level of preparedness included lack of information about their learners and their scope of practice, lack of training for medical education, lack of adequate scope of practice to educate health care professionals from other disciplines, lack of educational resources, and perceived lack of importance by the administration (Table 4). In addition, NPHCPs who were interested in participating in continuing education activities to further develop their teaching skills were less likely to feel prepared as educators.

Discussion

The findings from this study highlight the large number and professional diversity of NPHCPs currently involved in teaching medical trainees in the largest family medicine training program in Canada. Both Canadian and American family medicine accreditation bodies have identified effective skills in interprofessional and team-based functioning as key competencies for graduates.[3,4] As academic teaching units increasingly exemplify models of interprofessional team-primary care, a natural opportunity is created for NPHCPs to assist family medicine trainees in acquisition of these capabilities. Careful consideration of our findings may have systemic and infrastructural implications for optimizing medical education. Understanding the teaching experiences and needs of these NPHCPs, however, is an essential step toward this process.

A total of 82% (n=126) of NPHCPs surveyed were engaged in cross-professional teaching of medical learners across the training continuum, including pre-clerkship learners, residents, and physicians in practice. Surprisingly, only a minority (18%) of these NPHCP educators held faculty appointments within the DFCM, and even fewer held faculty appointments within their respective faculties. This is in stark contrast to physician educators within our DFCM who are required to hold faculty appointments prior to commencing any teaching responsibility. Lack of formal academic status for NPHCP teachers can be problematic for several reasons. It is difficult to keep track of non-faculty teachers for monitoring teaching quality, providing support, and evaluation purposes. NPHCPs' lack of faculty status also limits their access to teaching resources and professional development activities. For example, non-faculty NPHCPs may not receive education-related announcements and updates disseminated via email listserves or departmental newsletters. The voice of NPHCPs educators may also be excluded from important teaching issues due to lack of recognition and visibility.

Lack of perceived importance for NPHCPs' teaching roles by medical learners and administrators was identified as an important challenge by NPHCPs' in this study. The authors are unaware of any studies specifically examining the impact of faculty status recognition on the implementation of cross-professional teaching; however, lack of perceived importance for NPHCP educators more generally has been recognized as a significant barrier to effective interprofessional learning.[7,8] Further studies are required to clarify NPHCPs' experiences with and without faculty appointments and the perceived impact on cross-professional education in family medicine.

Only two thirds of NPHCPs in this study were told they would be teaching medical trainees when they were first hired. If this expectation to teach is not explicitly stated, academic teaching sites risk hiring NPHCPs who may not be prepared nor want to teach medical trainees. Indeed, only half of our respondents had received any prior formal education training, and only half felt prepared for their teaching roles. We found that those in their current positions for 5 years or longer were more than three times as likely to report feeling prepared to teach compared to those with less years of experience. This suggests that those who continue to feel less prepared may have left their positions by the fifth-year mark, or more likely, that on-the-job experiential learning increased NPHCPs' sense of self-efficacy as teachers.

In our study, NPHCPs who received advance information about their medical learners in a meaningful or useful way, such as curricular learning objectives for learners or clarification of related scope of practice, were also more likely to feel prepared to teach. The majority of NPHCPs in our study also expressed interest in attending CE activities to further develop their teaching skills. Ensuring NPHCP's have access to relevant CE activities, including CE that covers the training needs for the medical learners in cross- professional learning experiences, may be an important way to effectively support this educator group. Potential implications for medical education may include appropriate infrastructure/faculty appointments with required accurate job descriptions. This would facilitate appropriate professional development plans for NPHCPs who will be required to also perform teaching roles.

Less than half of our NPHCPs felt supported for any of their various teaching endeavors. Challenges reported by our participants were similar to those that have been identified by physician educators in other studies, including lack of time, lack of funding for teaching trainees, and lack of recognition for their academic work.[17-21] The way in which these barriers impact the implementation of the NPHCP teaching role, however, may be unique to specific specialty areas and requires further qualitative exploration.

Some strengths of this study include the use of survey topics that were grounded in findings from the published literature and development of the survey in consultation with methodologists and key content experts. Our study yielded an

exceptionally high response rate in a very large, multi-site department of family medicine; however, the extent to which these findings are generalizable from a single department to experiences of NPHCPs in other academic settings needs to be explored. The survey was conducted in a confidential manner; individual responses were not linked to individuals. However, because the research team had the list of NPHCPs, the survey was not anonymous and could have affected some of the responses. Qualitative methodologies may be particularly useful in future studies to explore the unique experiences of NPHCPs in family medicine teaching settings and build on the findings from this pioneering study.

In conclusion, we found that in our setting, NPHCPs are extensively involved in cross-professional training of medical learners in family medicine. However, there is significant variability in the preparation of NPHCPs for teaching, and they report experiencing a number of challenges to implementing their roles as educators. This study found disparities in access to faculty appointments for NPHCP teachers compared to physician teachers, which would limit their visibility and recognition. Increasing access to faculty appointments, designing targeted continuing education opportunities, and providing NPHCPs with adequate and useful information about the medical learning group are findings of this study that may help to improve preparedness of NPHCPs and the perceived support for their roles in cross-professional medical education. Further qualitative research is needed to better understand how the challenges faced by NPHCPs limit optimization of their academic role and to identify additional ways to support these individuals as teachers.

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References

1. Soklaridis S, Oandasan I, Kimpton S. Family health teams: can health professionals learn to work together? Can Fam Physician 2007 Jul;53(7):1198-9.
2. Way DO, Busing N, Jones L. Implementing strategies, collaboration in primary care—family doctors and nurse practitioners delivering shared care. Toronto: Ontario College of Family Physicians, 2002
3. The Family Medicine Milestone Project. The Accreditation Council for Graduate Medical Education and the American Board of Family Medicine, Sept 2013. https://www.acgme.org/acgmeweb/Portals/0/PDFs/Milestones/FamilyMedicineMilestones.pdf. Accessed June 2014.
4. CanMEDS—Family Medicine. Working Group on Curriculum Review. College of Family Physicians of Canada, October 2009. http://www.cfpc.ca/uploadedFiles/Education/CanMeds%20FM%20Eng.pdf. Accessed June 2014.
5. Harris DL, Krause KC, Parish DC, Smith MU. Academic competencies for medical faculty. Fam Med 2007 May;39(5):343-50.
6. Freeth D, Hammock M, Reeves S, Koppell I, Barr H. Effective interprofessional education: development, delivery, and evaluation. Malden, MA: Blackwell Publishers, 2005.
7. Herbert CP. Changing the culture: interprofessional education for collaborative patient-centred practice in Canada. J Interprof Care 2005 May;19 Suppl 1:1-4.
8. Reisenberg LA, Little BW, Wright V. Nonphysician medical educators: a literature review and job description. Acad Med 2009 Aug;84(8):1078-88.
9. Anderson ES, Cox D, Thorpe LN. Preparation of educators involved in interprofessional education. J Interprof Care 2009 Jan;23(1):81-94.
10. Lempp H, Maclellan M, Keen S, Nesbitt A. An example of interprofessional teaching in the community for final year medical students: challenge and rewards. Education for Primary Care 2003;14:317-28.
11. Curran VR, Sharpe D, Forristall J. Attitudes of health sciences faculty members towards interprofessional teamwork and education. Med Educ 2007 Sep;41(9):892-6.
12. Steinert Y. Learning together to teach together: interprofessional education and faculty development. J Interprof Care 2005 May;19 Suppl 1:60-75.
13. Rudland JR, Mires GJ. Characteristics of doctors and nurses as perceived by students entering medical school: implications for shared teaching. Med Educ 2005 May;39(5):448-55.
14. Kruse J. Overcoming barriers to interprofessional education: the example of the joint position statement of the Physician Assistant Education Association and the Society of Teachers of Family Medicine. Fam Med 2012 Sept;44(8):586-8.
15. Hammick M, Freeth D, Koppel I, Reeves S, Barr H. A best evidence systematic review of interprofessional education: BEME Guide no. 9. Med Teach 2007 Oct;29(8):735-51.
16. Dillman DA, Smyth JD, Christian LA. Internet, mail and mixed-mode surveys: the tailored design method, third edition. Hoboken, NJ: Jon Wiley, 2009.
17. DaRosa DA, Skeff K, Friedland JA, et al. Barriers to effective teaching. Acad Med 2011 Apr;86(4):453-9.
18. Hendry RG, Kawai GK, Moody WE, et al. Consultant attitudes to undertaking undergraduate teaching duties: perspectives from hospitals serving a large medical school. Med Educ 2005 Nov;39(11):1129-39.
19. Woolliscroft JO, Harrison RV, Anderson MB. Faculty views of reimbursement changes and clinical training: a survey of award-winning clinical teachers. Teach Learn Med 2002 Spring;14(2):77-86.
20. Peadon E, Caldwell PH, Oldmeadow W. "I enjoy teaching but . . . : paediatricians' attitudes to teaching medical students and junior doctors. J Paediatr Child Health 2010 Nov;46(11):647-52.
21. Sturman N, Rego P, Dick ML. Rewards, costs and challenges: the general practitioner's experience of teaching medical students. Med Educ 2011 Jul;45(7):722-30.