

## Boundaries and overlap

### Community medicine or public health doctors and primary care physicians

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#### ABSTRACT

**OBJECTIVE** To explore the boundaries and overlap of practice profiles of primary care physicians (PCPs), including FPs and GPs, and community medicine specialists (CMs), particularly in the area of community-oriented clinical care.

**DESIGN** Analysis of data from the 2004 National Physician Survey. Analyses included frequencies, cross-tabulations, and  $\chi^2$  statistics.

**SETTING** Canada.

**PARTICIPANTS** Primary care physicians and CMs who responded to the 2004 National Physician Survey.

**MAIN OUTCOME MEASURES** For PCPs and CMs, we compared main work and patient care settings, areas of professional activity, and credentials to practise public health or family medicine. Among CMs, we examined the most commonly treated conditions and services provided for evidence of community-oriented clinical care.

**RESULTS** Data were available for 154 CMs and 11 041 PCPs. The most common work setting for CMs was government or public health agencies, while for PCPs it was offices, clinics, or community care settings, including community hospitals. Among CMs, 59.7% indicated that community medicine or public health practice was an area of professional activity and 13.0% indicated that they participated in primary care. The corresponding proportions for PCPs were 15.3% and 78.2%, respectively. Generally, CMs engaged in a mixture of individual-level and population-level practice activities, although the former was not distinguished by increased clinical prevention, health promotion, or disease prevention services. Of CMs who indicated that primary care was an area of professional activity, 55.0% had the relevant credentials, compared with only 1.9% of PCPs who conversely indicated that community medicine or public health was an area of professional activity.

**CONCLUSION** In Canada CMs and PCPs have distinct practice profiles, despite some overlaps. Further role and practice profile refinement for both physician groups has implications for training, credentialing, and deployment within the health care system.

#### EDITOR'S KEY POINTS

- Little is known about the actual practices of Canada's public health doctors. Using data from the 2004 National Physician Survey, this study aimed to explore the practice profiles of community medicine specialists (CMs) and primary care physicians (PCPs), and identify any areas of overlap.
- Among the top 10 areas of professional practice identified by respondents, primary care was the only area that CMs and PCPs had in common. Just over one-quarter of CMs indicated that they provided direct patient care, with the conditions most clearly related to direct patient care being hypertension, respiratory conditions, chronic diseases, and symptoms and ill-defined conditions.
- Given that Canada is experiencing perceived shortages of both CMs and PCPs, clarifying their respective roles could help identify potential improvements in the provision of health care.

\*Full text is available in English at [www.cfp.ca](http://www.cfp.ca).

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# Démarcations et chevauchement

## Médecins de santé publique ou spécialistes de médecine sociale et préventive vs médecins de première ligne

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### RÉSUMÉ

**OBJECTIF** Étudier les démarcations et les chevauchements entre les profils de pratique des médecins de première ligne (MPL), y compris les médecins de famille (MF) et les omnipraticiens (OP), et ceux des spécialistes de médecine communautaire (SMC), notamment dans le domaine des soins cliniques de type communautaire.

**TYPE D'ÉTUDE** Analyse des données du sondage national des médecins de 2004. L'analyse incluait des fréquences, des tableaux à double entrée et des tests des  $\chi^2$ .

**CONTEXTE** Canada.

**PARTICIPANTS** Médecins de première ligne et SMC qui ont répondu au sondage national des médecins de 2004.

**PRINCIPAUX PARAMÈTRES À L'ÉTUDE** Nous avons comparé, chez les MPL et les SMC, les principaux milieux de travail et de soins des patients, les domaines d'activité professionnelle et les justifications pour pratiquer en médecine familiale ou en santé publique. Pour les SMC, nous avons déterminé les affections les plus souvent traitées et les services donnés comme preuve de soins cliniques de type communautaire.

**RÉSULTATS** Des données étaient disponibles pour 154 SMC et 11 041 MPL. Le milieu de travail le plus fréquent pour les SMC était le gouvernement ou les agences de santé publique, alors que les MPL pratiquaient dans des bureaux, cliniques ou établissements de santé communautaire, y compris les hôpitaux communautaires. Parmi les SMC, 59,7% déclaraient avoir des activités professionnelles en médecine communautaire et en santé publique, et 13,0% disaient participer aux soins primaires. Les pourcentages correspondants pour les MPL étaient de 15,3% et 78,2%, respectivement. En général, les SMC intervenaient à la fois sur le plan individuel et sur celui de la population, bien que dans le premier cas, on n'ait pas relevé une augmentation des services de bien que les interventions individuelles n'aient pas été caractérisées par une augmentation de la prévention clinique, de promotion de la santé ou de prévention de maladies. Parmi les SMC qui indiquaient que les soins primaires faisaient partie de leur activité professionnelle, 55,0% possédaient les justifications appropriées comparé à seulement 1,9% des MPL qui indiquaient par ailleurs que la médecine communautaire ou la santé publique faisaient partie de leur activités professionnelles.

**CONCLUSION** Au Canada, les SMC et les MPL ont des profils de pratique distincts, avec toutefois certains chevauchements. Une clarification des rôles et profils de pratique de ces deux groupes de médecins influencerait sur la formation, les certificats de compétence et l'utilisation des ressources dans le système de santé.

### POINTS DE REPÈRE DU RÉDACTEUR

- On sait peu de choses sur le mode de pratique des médecins de santé publique au Canada. Les auteurs se sont servi des données du sondage national des médecins de 2004 pour examiner les profils de pratique des spécialistes de médecine communautaire (SMC) et des médecins de première ligne (MPL), et ainsi cerner les domaines de chevauchement.
- Parmi les 10 principaux domaines d'activité professionnelle identifiés par les répondants, les soins de première ligne étaient le seul domaine commun aux SMC et aux MPL. Un peu plus du quart des SMC disaient prodiguer des soins directement aux patients, les conditions les plus clairement reliés à ces soins étant l'hypertension, les affections respiratoires, les maladies chroniques et les symptômes ou conditions mal définis.
- Vue la pénurie actuelle de SMC et de MPL au Canada, une clarification des rôles respectifs de ces groupes pourrait éventuellement contribuer à une meilleure dispensation des soins de santé.

\*Le texte intégral est accessible en anglais à [www.cfp.ca](http://www.cfp.ca).

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The specialty of community medicine prepares doctors to practise public health medicine; however, it also includes a career path of “community-oriented clinical practice.”<sup>1</sup> What community-oriented clinical practice looks like, or how it differs from more population-oriented public health practice or from primary care, has not been examined. Using data from the 2004 National Physician Survey (NPS) and the Canadian Medical Association (CMA) Masterfile codings for *community medicine/public health* and for *family physician/general practitioner*, we described the practice profiles of Canadian community medicine specialists (CMs) and compared them to those of primary care physicians (PCPs).

## METHODS

The NPS is a collaborative effort of the College of Family Physicians of Canada, the CMA, and the Royal College of Physicians and Surgeons of Canada. Detailed information on the 2004 NPS, including survey methodologies and questionnaires, is available on the NPS website.<sup>2</sup> In 2004, the national response rate was 35.9%; however, respondents were very similar to both the general physician population and to nonrespondents.<sup>3</sup> Data from the survey have been widely used to describe physician practice profiles.<sup>4-6</sup>

The 2004 NPS used a core set of common questions for both specialists and non-specialists, including questions (checklists) about main work and patient care settings and populations served. Respondents were asked to indicate all areas of professional activity on checklists that included items relevant to primary care and public health. The questionnaires also inquired about certifications and nonmedical degrees (open-ended questions). Unique to the specialist questionnaire were 2 open-ended questions: “What are the five most common conditions you treat?” and “Excluding consultations, what are the five most common services you provide?”

### Data analysis

Content analysis was performed for text data. Other analyses included unweighted frequencies and

cross-tabulations;  $\chi^2$  tests were used to explore for significant differences at an  $\alpha$  level of 0.05 when comparing physician groups or practice differences within physician groups in cross-tabulations. Where cell size numbers warranted, data were suppressed in accordance with disclosure restriction rules (minimum n in a group or cohort of 30; minimum cell size of 5).

### Ethics approval

The study was approved by the Conjoint Health Research Ethics Board of the University of Calgary in Alberta and the Technical Advisory Committee of the NPS.

## RESULTS

We obtained data on the 11 195 CMs and PCPs who responded to the 2004 NPS (154 CMs, 11 041 PCPs). These physicians represented an estimated total of 382 CMs and 30 903 PCPs in Canada.<sup>7</sup> The practice profiles of CMs and PCPs were examined by setting, professional activity, and population, cross-referenced with credentials. Because the questions were oriented to individual patient care, many CMs indicated that such questions were not applicable or did not respond.

### Main work and patient care settings

For CMs, the most frequently identified main work setting—the setting where the most time was spent—was government or public health agencies, while for PCPs it was private offices, clinics, or community care settings, including community hospitals (Table 1). Government or public health agencies were identified as the main work setting by 39.6% of CMs but by less than 1% of PCPs. Nearly half the CMs (47.4%) indicated that the question about main patient care setting did not apply to them, in contrast to only 2.4% of the PCPs. A main *patient care* setting of private offices, clinics, or community care settings, including community hospitals, was listed by 24.7% of CMs and 86.7% of PCPs (data not shown).

### Areas of professional activity

Areas of professional activity identified by participants

**Table 1. Main work settings for CMs and PCPs**

MAIN WORK SETTING	TYPE OF PHYSICIAN, N (%)	
	CMs N = 154	PCPs N = 11 041
Private offices, clinics, or community care settings, including community hospitals	21 (13.6)	8346 (75.6)
Academic health sciences centre or research unit	26 (16.9)	518 (4.7)
Government or public health agency	61 (39.6)	61 (0.6)
Administrative office	22 (14.3)	214 (1.9)
Other	21 (13.6)	1755 (15.9)
No response	3 (1.9)	147 (1.3)

CM—community medicine specialist, PCP—primary care physician.

were ranked according to the frequency with which they were identified (**Table 2**). There was only 1 area of professional activity that ranked in the top 10 for both CMs and PCPs: primary care was the fifth most frequently identified area of professional practice for CMs and the most frequently identified area of professional practice for PCPs. Administration was ranked third for CMs and 14th for PCPs. Community medicine or public health ranked first for CMs but 24th for PCPs (selected by 15.3% of PCPs). Concurrent practice activities in both community medicine and primary care were unique to CMs (9.1%). Of the other areas of professional activity included in the top 10 ranking for CMs that were also included on the PCP checklist, international medicine ranked eighth for CMs and 32nd for PCPs; infectious diseases ranked ninth for CMs and 19th for PCPs; and travel or tropical medicine tied for ninth for CMs and ranked 28th for PCPs. Medical education (teaching, research) ranked second for CMs and was represented by 2 different items in the PCPs checklist: "teaching," which ranked 18th, and "research," which ranked 31st.

### Populations served

Among CMs, 12.3% (vs 1.5% of PCPs) could not identify a geographically characterized (eg, rural or urban) primary population served, although an additional 35.1% (vs 3.9% of PCPs) did not respond to the question. Respondents were asked to identify populations that represented 10% or more of their practices; 64.3% of CMs and 47.1% of PCPs did not answer the question. There was only one difference (of borderline significance) between the practice populations of CMs and

PCPs who did provide answers to the question: 2.6% of CMs compared with 1.3% of PCPs had practices in which persons with HIV or AIDS comprised more than 10% of the practice population ( $P=.05$ ).

### Common treatments and services

The 2004 NPS did not collect sufficiently detailed data from PCPs to permit a direct comparison with CMs of the most commonly treated health conditions or the most commonly provided services. Still, the examination of the responses to these questions by CMs might inform the practice profile of community-oriented clinical care.

Only 70 of 154 (45.5%) CMs provided information on the conditions they treated most often. For these respondents (**Table 3**), responses suggested both programmatic- and population-based categories, such as public health, and individual patient care categories (eg, *symptoms and ill-defined conditions*). Some categories (eg, *respiratory conditions, psychiatric conditions, hypertension*) might represent either or both situations. We explored the data for conditions that distinguished between CMs who did or did not indicate that family medicine, general practice, or primary care was an area of professional activity. Four conditions significantly associated with higher levels of patient care versus population-level practice were identified: hypertension (60% vs 14%,  $P=.0003$ ), respiratory conditions (50% vs 18%  $P=.015$ ), chronic diseases (50% vs 14%,  $P=.004$ ), and symptoms and ill-defined conditions (50% vs 20%,  $P=.03$ ).

Of 154 CMs, 72 (46.8%) supplied information on the services they provided most often; more than 1 category

**Table 2. Areas of professional activity most commonly selected by CMs and PCPs**

CMs, N = 154		PCPs, N = 11 041	
AREA OF PROFESSIONAL ACTIVITY	N (%)	AREA OF PROFESSIONAL ACTIVITY	N (%)
Community medicine, public health	92 (59.7)	Family practice, general practice, primary care	8634 (78.2)
Medical education (teaching, research)	45 (29.2)	Chronic disease management	5487 (49.7)
Administration	37 (24.0)	Geriatric medicine, care of the elderly	5432 (49.2)
Epidemiology, biostatistics	30 (19.5)	Pediatrics	4560 (41.3)
Family practice, general practice, primary care	20 (13.0)	Psychotherapy, counseling	4483 (40.6)
Clinical epidemiology	18 (11.7)	Psychiatry	4438 (40.2)
Occupational medicine	13 (8.4)	Gynecology	4262 (38.6)
Academic or clinical investigation, research	12 (7.8)	Palliative care	4019 (36.4)
Medical science, scientist	11 (7.1)	Adolescent medicine	3953 (35.8)
Social sciences and humanities in medicine	11 (7.1)	Women's health care	3798 (34.4)
International medicine	11 (7.1)	Pain management	3655 (33.1)
Travel or tropical medicine	10 (6.5)	Preventive medicine	3522 (31.9)
Infectious diseases	10 (6.5)	Cardiology	3456 (31.3)
Psychiatry	8 (5.1)	Administration	3235 (29.3)
Environmental medicine	7 (4.5)	Emergency medicine	3058 (27.7)
STIs, sexual medicine	7 (4.5)	Cancer care, oncology	2948 (26.7)

CM—community medicine specialist, PCP—primary care physician, STI—sexually transmitted infection.

**Table 3. Conditions most commonly treated by CMs: 70 of 154 (45.5%) CMs provided responses; more than 1 category of response was permitted.**

CATEGORY	EXAMPLES	FREQUENCY N (%)
Psychiatric conditions	Depression, anxiety, addictions	36 (51.4)
Public health	Air quality, food safety, drinking water or water quality; prevention of drug addiction in youth; vaccines for preventable diseases, body fluid and blood borne infections, TB, rabies, meningococcal diseases, West Nile virus	27 (38.6)
Symptoms and ill-defined conditions	Shortness of breath, not feeling well, abdominal pain	20 (28.6)
Hypertension	Hypertension	19 (27.1)
Respiratory conditions	Upper respiratory infection, chronic obstructive pulmonary disease, asthma	19 (27.1)
Chronic disease	Diabetes, hyperlipidemia	17 (24.3)
Musculoskeletal conditions	Musculoskeletal strains, ankle sprains	14 (20.0)
Clinical prevention	Malaria prophylaxis, well-baby care, vaccination	11 (15.7)
Women's health	Contraception, menopause	10 (14.3)
Cardiac disease	Heart failure, angina	9 (12.9)
Trauma or injury	Falls	7 (10.0)
Neurologic disorders	Headache, dyspraxia	6 (8.6)
Arthritis	Osteoarthritis	5 (7.1)
Urinary tract infections	Cystitis	5 (7.1)
Gastroenteric diseases	Gastroesophageal reflux disease, travelers diarrhea	5 (7.1)

CM—community medicine specialist, TB—tuberculosis.

of response was permitted. Five broad categories emerged from the analysis of these text data: direct patient care; public health; academic work; providing consultations to health care workers and to governments or agencies; and occupational health. These service categories confirmed that there was a mixture of individual-level and population-level responses from the CMs. Direct patient care and public health services emerged with similar frequency (Table 4). Community medicine physicians who indicated that primary care was an area of professional activity were more likely to list direct patient care as one of their most commonly provided services (88.2% vs 49.1%;  $P=.01$ ). This was the sole service that was associated with indicating primary care as an area of professional activity.

### Credentials

**For practising primary care.** Of the 154 CMs, 48 (31.2%) held concurrent Certification in Family Medicine from the College of Family Physicians of Canada (CCFP). Of the 20 CMs who identified primary care as an area of professional activity, 11 (55.0%) held the CCFP designation. Primary care was identified as an area of professional activity for a significantly larger proportion of CMs (22.9%) who held CCFP designations than for those who did not (8.4%,  $P=.03$ ). Among the 11 041 PCPs, 6056 (54.9%) held the CCFP designation. As was observed for CMs, a larger proportion of those PCPs with the CCFP designation (81.8%) than those without

(74.0%) indicated that primary care was an area of professional activity ( $P<.0001$ ).

**For practising community medicine or public health.** Of the 154 doctors classified as CMs by the CMA Masterfile, 75 (48.7%) reported that they held Certification in Community Medicine from the Royal College of Physicians and Surgeons of Canada, and 100 (64.9%) reported that they were certified in community medicine or public health or held a core public health degree such as a Masters of Public Health.<sup>8</sup> All CMs who indicated that community medicine or public health was an area of professional activity had one of these credentials. In contrast, of 11 041 PCPs only 112 (1.0%) held public health credentials. A larger proportion of those PCPs with such credentials (32 of 112; 28.6%) than of those without such credentials (1661 of 10 929; 15.2%) indicated that public health was an area of professional activity ( $P<.001$ ).

## DISCUSSION

Little is known of the actual practices of Canada's public health doctors. The NPS is limited in this regard because CMs, unlike PCPs, had difficulty responding to survey items on main patient care settings, populations served, and health conditions seen and treated. We posit that CMs likely perceived questionnaire items to

**Table 4. Services most commonly provided by CMs: 72 of 154 (46.8%) CMs provided responses; more than 1 category of response was permitted.**

CATEGORY	EXAMPLES	FREQUENCY N (%)
Direct patient care	Office visits, histories, physicals examinations, minor surgeries, periodic health examinations, smoking cessation counseling, outpatient urgent care, emergency medicine, alternative medicine, travel medicine, sexual medicine or counseling, general counseling	42 (58.3)
Public health	Population diagnostics, regional surveillance on health, morbidity and mortality, investigation of cases of notifiable disease and provision of follow-up and preventative interventions, public health environmental exposure assessment, tobacco reduction, chronic disease and injury prevention or control, advocacy, emergency coordination or preparedness	40 (55.6)
Academic work	Teaching medical students or residents, clinical or epidemiologic research, research and evaluation of modes of organization and health services, literature synthesis, critical appraisals	18 (25.0)
Consultation to health care workers, governments, or agencies	Telephone advice to physicians, public policy and position papers, expert advice to provincial working groups, nurses	13 (18.1)
Occupational health	Industrial health and safety programs	6 (8.3)

CM—community medicine specialist.

be related to direct patient care and not population-level practice. Among those who responded to these items, we discerned a mixed practice profile, which included elements of both individual-level and population-level health care. For example, while CMs most commonly indicated their main work setting to be government or public health agencies, nearly 1 in 7 identified private offices, clinics, or community care settings as their main work setting, a choice that was also the most common patient care setting.

A picture of mixed practice is further substantiated when areas of professional activity are considered. Primary care was among the 5 most frequently identified areas of professional practice for CMs and was the only area of professional practice of the top 10 that CMs had in common with PCPs. About 9% (14 of 154 CM respondents) of CMs explicitly indicated concurrent practice in both community or public health medicine and primary care. The most commonly treated conditions and services provided by CMs are again suggestive of a mixture of both programmatic- or population-based practice and individual patient care categories.

Given CMs' participation in primary care, did their practice profile conform to the Royal College of Physicians and Surgeons of Canada's career path for CMs of "community-oriented clinical practice with an emphasis on health promotion and disease prevention"<sup>1</sup>? Such a practice profile should include clinical prevention,<sup>9-11</sup> individual-level public health interventions, or—given the specialty's social justice mandate—the care of vulnerable populations. There was only 1 vulnerable population (persons with HIV or AIDS) that CMs were more likely than PCPs to treat, although this difference was of borderline significance, and we did not find an association between identifying primary care as an area of professional activity for CMs and treating the

health conditions classified as part of clinical prevention or public health. Based on the health conditions most commonly treated (ie, hypertension, symptoms and ill-defined conditions), it does not appear that those CMs who engaged in family practice, general practice, or primary care as an area of professional activity had a particular focus on health promotion and disease prevention. If such were the case, one might have anticipated that clinical prevention and perhaps women's health would be associated with participation in this area of professional activity.


### Limitations

Based only on the NPS, our measurements are blunt; it is possible that an in-depth study that used chart reviews or qualitative interviews focusing on this area might be illuminating. We might find one or more of the following: a true finding of a mixed practice pattern; a difference in the conceptualization of clinical prevention or public health by population- versus individual-level interventions between CMs who did or did not indicate that family practice, general practice, or primary care was an area of professional activity; or a primary care system that cannot support a health promotion and disease prevention practice emphasis.

*Primary care* has been defined as "the provision of integrated, accessible health care services by clinicians who are accountable for addressing a large majority of personal health care needs, developing a sustained partnership with patients, and practicing in the context of family and community"<sup>12</sup>; *family medicine* has been defined as "the medical specialty which provides continuing, comprehensive health care for the individual and family."<sup>13</sup> The 2004 NPS did not capture data in sufficient detail to permit mapping of these definitions for CMs or for PCPs, except insofar as respondents

might have had these definitions in mind when they indicated that their practices included family medicine, general practice, or primary care. Nor could the NPS tell us about the community medicine or public health practices of PCPs.

### Conclusion

There is ongoing interest in the boundaries and overlap of CMs and PCPs in Canada. In March 2008, a 1-day symposium took place in Toronto, Ont, to examine the competency interface between family medicine and community medicine residency programs. The symposium examined the desired public health competencies of family medicine and the desired primary care competencies of community medicine residents upon graduation (Bart Harvey, MD, PhD, MEd, written communication; July 4, 2008). The symposium raised perhaps more questions than it answered, but it noted that the relative size of the family medicine programs compared with the community medicine programs posed particular challenges to providing joint educational opportunities. This might be even more of a challenge in practice, considering our study indicated a ratio of PCPs to CMs of 72:1. Given that Canada is experiencing perceived shortages of both public health doctors and PCPs, we believe there is a need to clarify the roles of both CMs and of PCPs in the provision of health care. This would have implications for training, credentialing, and scope of practice. 

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### Contributors

**Drs Russell and McIntyre** conceived and designed the study, analyzed and interpreted the data, and drafted the manuscript. Both authors revised the manuscript critically for important intellectual content and have seen and approved the final version.

### Competing interests

None declared

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