



Editor's key points

► Family medicine research output lags behind that of other medical disciplines. An initiative by the Department of Family Medicine (DFM) at Western University in London, Ont, has been designed to identify strategies to increase research activity among clinical academic faculty members whose duties are primarily clinical work and teaching. At a past conference workshop, participants engaged in role-play and conversations about ways to increase clinician-teachers' engagement in research.

► From the workshop discussions, the authors developed the following recommendations to increase research capacity in DFMs: leadership and a vision for the role of research in the DFM must be present; DFMs must consider their level of research maturity and implement strategies appropriate for their context (eg, a small DFM builds linkages with other departments); DFMs should use a tailored approach to supporting each clinician-teacher's engagement in research (ie, offer levels of research engagement and provide clarity of expectations [eg, descriptions of "research" activities], as well as the required resources, structures, and processes, for each level); and DFMs need to encourage clinician-teachers to find topics that have personal relevance, as well provide mentors, facilitate collaborations, and determine training needs for clinician-teachers to gain confidence in conducting research.

Building research culture and capacity in academic family medicine departments

Insights from a simulation workshop

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Abstract

Objective To use data from a workshop in which various representatives from departments of family medicine (DFMs) aimed to identify strategies to increase research activity, particularly among clinical faculty members.

Design Descriptive qualitative study using data from a workshop in which participants role-played (ie, as clinician-teachers, department chairs, and mentors) and, while in the role-playing scenario, were asked to imagine strategies that would encourage the clinical faculty members to engage in research.

Setting The 2014 North American Primary Care Research Group Annual Meeting in New York City, NY.

Participants Thirty-two workshop participants who belonged to DFMs and other academic primary care organizations: 18 from Canada, 11 from the United States, 2 from Australia, and 1 from the Netherlands.

Methods Facilitators recorded the strategies at the workshop. Strategies were organized into themes and vetted by facilitators to ensure that they adequately represented the data. Finalized themes were compared and integrated across scenarios.

Main findings Participants enthusiastically and productively engaged in the role-playing scenarios. The themes that emerged from the workshop discussions indicated that in order to increase clinician-teacher engagement in research, the following factors needed to be attended to: gaining confidence in conducting research; finding research topics that have personal relevance; presenting clarity of expectations; fostering collaborative relationships; using a tailored approach; providing resources, structures, and processes; and having leadership and vision. Finally, it was important to recognize these efforts in the context of the existing research environment of the DFM and the various responsibilities of clinician-teachers.

Conclusion The analysis of data arising from this simulation workshop elucidated practical strategies for building and sustaining research in DFMs. There is a clear indication that one size does not fit all with respect to strategies for building a research culture in a DFM; the authors' recommendations guide departments to tailor strategies to their unique context.



Promouvoir une culture de la recherche dans les départements universitaires de médecine familiale et augmenter leur activité de recherche

Suggestions issues d'un atelier de simulation

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Résumé

Objectif Utiliser les suggestions d'un atelier collaboratif dans lequel des représentants de plusieurs départements de médecine familiale (DMF) avaient pour but de suggérer des stratégies destinées à augmenter les activités de recherche, notamment parmi les enseignants-cliniciens.

Type d'étude Une étude descriptive réalisée à l'aide des données tirées d'un atelier collaboratif au cours duquel les membres ont participé à un jeu de rôle (en tant qu'enseignants-cliniciens, chefs de département et mentors) et auxquels on a demandé de suggérer des stratégies visant à encourager les membres des DMF à se lancer en recherche.

Contexte L'assemblée annuelle 2014 du *North American Primary Care Research Group* à New York, NY.

Participants Trente-deux participants à l'atelier qui provenaient de DMF et d'autres organismes universitaires de soins primaires, dont 18 du Canada, 11 des États-Unis, 2 d'Australie et 1 des Pays-Bas.

Méthodes Les stratégies proposées durant l'atelier ont été consignées par des animateurs. Elles ont été classées en fonction de leurs thèmes et révisées par les animateurs pour faire en sorte qu'elles correspondent vraiment aux données. Les thèmes finalement choisis ont été comparés et intégrés aux scénarios.

Principales observations Les participants se sont engagés de façon enthousiaste et productive dans les scénarios du jeu de rôle. Les thèmes tirés des discussions indiquaient que pour augmenter la participation des enseignants-cliniciens aux activités de recherche, il fallait tenir compte des facteurs suivants, pour faire en sorte: qu'ils soient plus à l'aise dans ce domaine; qu'ils choisissent les sujets qui les intéressent déjà; qu'on leur précise ce qu'on attend d'eux; qu'on leur assure des contacts avec des collaborateurs; qu'on utilise une approche personnalisée; qu'on leur fournisse les ressources, les structures et les processus; et qu'il y ait du leadership et une vision. Finalement, il était important de reconnaître de tels efforts, compte tenu du contexte actuel de la recherche dans le milieu des DMF et des diverses responsabilités qui incombent aux cliniciens-enseignants.

Conclusion L'analyse des résultats de cet atelier de simulation a permis de cerner des stratégies pratiques pour accroître et soutenir les activités de recherche dans les DMF. Cela indique clairement qu'il n'y a pas qu'une seule stratégie qui convienne à tous les efforts visant à promouvoir une culture de la recherche dans les DMF; les recommandations des auteurs devraient aider les départements à façonner des stratégies adaptées à leur contexte unique.

Points de repère du rédacteur

► On fait moins de recherche en médecine familiale que dans les autres disciplines médicales. Une initiative du département de médecine familiale (DMF) de l'Université Western à London, en Ontario, avait pour but de trouver des stratégies pour faire en sorte que les professeurs de la faculté de médecine dont les tâches principales sont d'ordre clinique et pédagogique fassent davantage de recherche. Récemment, les membres d'un atelier collaboratif ont tenu des discussions sur la façon d'augmenter la participation des enseignants-cliniciens à la recherche, en plus de participer à un jeu de rôle.

► À partir des discussions de l'atelier, les auteurs ont suggéré que pour accroître les activités de recherche dans les DMF, il serait nécessaire: d'y trouver un leadership et une vision sur le rôle de la recherche dans un DMF; de tenir compte du niveau de maturité de la recherche dans le DMF et d'y instaurer des stratégies appropriées dans un tel contexte (p. ex. fusionner un petit DMF avec d'autres unités); d'encadrer chaque clinicien-chercheur en fonction de son propre profil (c.-à-d. lui proposer plusieurs niveaux de participation à la recherche et préciser ce qu'on en attend [p. ex. des descriptions d'activités de recherche], et lui fournir les ressources, les structures et les modes d'action nécessaires, et ce, pour chacun des niveaux); et d'encourager les cliniciens-chercheurs à choisir des sujets de recherche qui les intéressent personnellement, de leur procurer des mentors, de susciter des collaborations et de préciser leurs besoins de formation afin qu'ils se sentent mieux préparés à leur activité de recherche.

The need to develop a strong research base in academic family medicine has long been discussed, yet family medicine research output lags behind that of other medical disciplines.¹⁻³ Common elements that facilitate (by their presence) or hinder (by their absence) family medicine research include the following: funding and infrastructure⁴⁻⁸; leadership, culture, and mentorship⁹⁻¹¹; competing demands and associated protected and sufficient time^{8,11-15}; fellowship programs¹⁶⁻¹⁹; research training^{5-9,11,20}; and personal motivation.^{7,8,12}

The Building Research Culture and Capacity in Family Medicine (BRCC-FM) initiative was undertaken in the Department of Family Medicine (DFM) at Western University in London, Ont, with a focus on identifying strategies for increasing research activity and output from our clinical academic faculty members whose duties are primarily clinical work and teaching.

The BRCC-FM team reviewed the literature on family medicine research culture and capacity to identify best practices for deliberations within our own department and the wider family medicine community. Our team conducted a workshop at the 2014 North American Primary Care Research Group (NAPCRG) Annual Meeting in New York City, NY. The purpose of this workshop, and subsequent analysis of the data arising, was to elucidate practical strategies for building and sustaining research in DFMs.

— Methods —

Workshop and data collection

The objective of the workshop was to bring together a diverse group of representatives from DFMs to identify key strategies for building research culture and capacity in academic DFMs, paying particular attention to clinical academic faculty with primarily clinical and teaching duties (hereafter called *clinician-teachers*). Participants chose to attend based on a NAPCRG conference abstract.²¹

The workshop consisted of a simulation asking participants to identify as many strategies as they could to encourage clinician-teachers to engage in research in an academic DFM in the fictitious Acme Optimal Knowledge University. Participants were organized into 3 groups, moving in turn through 3 role-playing scenarios as clinician-teachers, department chairs, and mentors. In each role-playing scenario, all members of a group took on the same role. It was understood that participants' actual roles and experiences would influence their opinions on how to build the research culture in the department, but they were asked to apply those experiences from the viewpoint of the role they were playing. We discouraged participants from simply calling for more resources given limited public sector resources, and we also believed that such calls might prevent articulation of more creative strategies. Workshop facilitators (M.Z., J.W., S.J.W.) recorded the strategies arising for

each of the 3 role-playing scenarios. **Table 1** provides details of the simulation.

The workshop ended by bringing participants together and each scenario's facilitator reported the strategies that emerged. A wrap-up discussion chaired by S.J.W. reviewed and expanded on these strategies.

Analysis

A descriptive qualitative method was employed to produce a comprehensive summary of the workshop event²² organized in a way that would provide practical strategies to academic DFMs. The strategies were transcribed verbatim from handwritten flip charts into a Word document and checked for accuracy. They were then verified by the corresponding facilitator for completeness. Next, 2 BRCC-FM team members (B.L.R., C.T.) organized the strategies into a smaller number of themes. These themes were vetted again by each of the facilitators to ensure they adequately represented the data from the workshop. Once the themes were finalized, the BRCC-FM team compared the findings across the scenarios and integrated them with the observations made in the wrap-up discussion.

— Findings —

There were 32 workshop participants: 18 from Canada, 11 from the United States, 2 from Australia, and 1 from the Netherlands. Participants belonged to DFMs and other academic primary care organizations; they all enthusiastically engaged in the role-play and the conversations were productive.

The themes that emerged from the workshop discussions indicated that in order to increase clinician-teacher engagement in research, the following factors needed to be attended to: gaining confidence in conducting research; finding research topics that have personal relevance; presenting clarity of expectations; fostering collaborative relationships; using a tailored approach; providing resources, structures, and processes; and having leadership and vision. The final additional theme that emerged from the wrap-up discussion indicated the importance of exercising these efforts within the context of the DFM's research environment and clinician-teachers' responsibilities.

Confidence. The need for clinician-teachers to gain confidence in conducting research was highlighted by participants in all 3 role-playing scenarios. Participants agreed on the importance of providing research skills training, with those enacting the roles of department chair and mentor stressing that clinician-teachers should be asked directly about their research needs. Mentors further suggested that it was important to address barriers that prevent clinician-teachers from gaining confidence. The department chairs suggested an appreciative

Table 1. Description of the simulation: *At the workshop, 3 groups of participants rotated through 3 role-playing scenarios. In each scenario, all members of each group took on the same role.*

WORKSHOP SCENARIO	DESCRIPTION
Research context in the DFM at AOK University	AOK is a medium-sized, research-intensive university located on the border between the United States and Canada. The mandate of AOK's DFM is to increase research output (grants and publications) by 20% over the next 3 y. The department is considering a number of options to reach this goal. A primary focus—and therefore the focus of the workshop—will be to engage existing and new clinician-teachers more actively in the research enterprise. It is understood that there are full-time researchers, but AOK's DFM requires more output from its clinician-teachers. Currently, AOK specifies that clinician-teachers spend a minimum of 10% of time on research. However, many see their role solely as clinician and teacher, and they report that all of their time is taken up with these responsibilities. Further, clinician-teachers report a lack of clarity around what activities constitute research and the level of productivity required for promotion. Some report feeling disconnected from the research enterprise in the department
Role-playing scenarios	
• Clinician-teacher	The clinician-teacher role at your institution, despite what the name suggests, encompasses 3 roles: clinical work, training of medical students and residents, and research. At the last departmental meeting, you and your colleagues got talking about how difficult it is to incorporate research into your already-heavy clinical and teaching loads. <i>How can you and your colleagues become more engaged in research?</i>
• Department chair	In this role, you are responsible for all aspects of the department, including administration, finances, clinical teaching, and research. You are accountable to the dean of the medical school. You are charged with increasing clinician-teachers' participation in research. <i>How can your department facilitate clinician-teachers' increased engagement in research?</i>
• Mentor	You are mentoring a newly appointed clinician-teacher whose role requires that 10% of the clinician-teacher's time is spent on research. The remainder of the clinician-teacher's time is taken up by clinical and teaching responsibilities. The clinician-teacher is seeking your advice on becoming involved in research. <i>What would you tell the clinician-teacher is the most productive way of engaging in research?</i>

AOK—Acme Optimal Knowledge, DFM—Department of Family Medicine.

inquiry approach be employed to understand training needs. When taking on the clinician-teacher role, participants emphasized another way to build confidence was to recognize and value the unique contributions family physicians bring to research.

Personal relevance. Across all 3 roles, the need for research to have personal relevance was recognized. Participants performing the roles of clinician-teacher and mentor stressed the need to identify a research interest, with the mentors focusing on the need to find an interest about which the clinician-teacher was passionate. All roles focused on conducting research directly relevant to the clinician-teachers' role—in other words, research on clinical care delivery and on teaching residents and medical students. While playing the clinician-teacher role, participants suggested linking with other family practice researchers and research projects through practice-based research networks (PBRNs) to facilitate their involvement in research. Participants suggested that, in terms of efficiency, clinician-teachers should focus their efforts on content areas familiar to them. In the wrap-up discussion, participants further underscored the importance of personal relevance in encouraging clinician-teachers to conduct research.

Clarity of expectations. Participants in the clinician-teacher and department chair role-playing scenarios expressed the desire for clarity of expectations. They thought clarity was needed around what activities were considered “research” (as compared with scholarly activity or quality improvement), and they wanted examples of and guidelines on what successful research looks like (eg, numbers of published papers and presentations). Additionally, clinician-teachers wanted explicit descriptions from DFMs on the requirements for research in their roles.

Collaborative relationships. The need for collaborative relationships was a theme that emerged from all 3 roles. There were a number of different types of collaboration suggested: collaborations between clinician-teachers and full-time researchers in DFMs; collaborations across various DFMs; and collaborations arising out of PBRNs. Those playing the department chair role added that relationships with national organizations such as the College of Family Physicians of Canada and the American Academy of Family Practice, as well as international research organizations such as the NAPCRG, could foster research involvement. Those playing the mentor role saw it as their responsibility to facilitate the linkages necessary to create these collaborations

for clinician-teachers. In the wrap-up discussion, participants emphasized that clinician-teachers should be part of collaborative relationships and interdisciplinary teams of researchers who can provide a supportive team environment to nurture their research interest.

Tailored approach. The question arose as to whether all clinician-teachers should be required to do the same amount of research. There was a consensus that “one size does not fit all.” While there was an understanding that DFMs might establish a required minimum for research activity, participants from all 3 roles advocated for a more tailored approach to engaging clinician-teachers, one which responded to individual levels of interest by providing support. Suggestions for tailoring included providing research sabbaticals and providing some with a higher percentage of protected time for research and a correspondingly lower percentage for clinical and teaching duties. Participants playing the department chair and mentor roles asserted that successful tailoring depends on actively identifying clinician-teachers who are interested in research.

Resources, structures, and processes. Providing resources, structures, and processes that support research was a theme that arose separately from, although intersected with, the theme of using a tailored approach for research engagement. All 3 roles identified resources such as the following: administrative and research staff support; dedicated research time available on a regular basis; and appropriate remuneration for income loss due to taking time for research. Those playing the department chair role also identified important structures and processes such as research-focused strategic departmental retreats and annual performance reviews specifically addressing research expectations.

Leadership and vision. The need for leadership and vision in DFMs was highlighted primarily by those playing the role of department chair; they believed that department chairs must be research-oriented and that DFMs need to develop a clear vision specific to research. Department chairs must play the role of advocate for research by assisting with funding, inculcating a supportive research environment, supporting local research champions, and encouraging the celebration of research success.

Research in the contexts of the DFM environment and the clinician-teacher’s responsibilities. A theme that emerged from the wrap-up discussion was the importance of exercising these efforts in the DFM and the clinician-teacher contexts. With regard to the department’s research environment itself, some participants expressed concern that the fictitious scenario of the university DFM used in this workshop (which required 10% of clinician-teacher time to be spent on research [Table 1]) implied

an already-strong emphasis on research by the department. Strategies need to be tailored for departments at different phases in their research capacity building. With regard to the context of the individual clinician-teacher, participants stressed that it was essential to consider the various responsibilities of clinician-teachers and provide flexibility so that they could consequently engage in research. This was interrelated with the themes of clarity of expectations and a tailored approach.

— Discussion —

Participants raised 3 themes with little visibility in the literature. The first was the importance of finding a research topic of relevance to the roles of the clinician-teacher. We did not see this commonly described in the literature. The closest is Cooke’s⁷ characterization of building capacity around research close to practice. A related characterization was seen in the work of Bland et al,¹² in which they reported the importance of motivation to explore, understand, and follow one’s own ideas. Another theme that has little attention in the literature is the need for explicit statements of the DFM’s expectations for clinician-teachers’ engagement in research. One exception was the work by Brocato and Mavis.¹³ This theme figured prominently in our workshop. The final theme with limited prominence in the literature was the importance of context. Context was characterized in the literature as institutional factors related to research capacity such as department size and the research focus of the university.^{4,7,12} The insight from the workshop was the importance of understanding this context qualitatively as a first step before proceeding to build research capacity in any given DFM. An article by Weber-Maine et al¹⁰ similarly highlighted the importance of self-awareness as their department adapted to changing contexts.

Other themes from the workshop echoed the literature. The provision of research skills training has been cited as an important strategy for DFMs seeking to grow their research enterprise.^{7,8,11,13} The importance of collaborative relationships was repeatedly identified in the literature. Cooke⁷ mentions myriad types of linkages supportive of research capacity including linkages between practitioners and researchers. A recent Canadian national consensus conference examined training for physician-scientists—that is, physicians whose primary role is conducting research; one of the conference’s recommendations was to develop networks of diverse and interdisciplinary researchers,²³ a strategy that was similarly highlighted by our participants for clinician-teachers to succeed in conducting research.

The theme of a tailored approach is described in the literature as focusing resources on those clinician-teachers interested in research. A commentary by Pimlott and Katz rightly identifies that, within the entire family physician

community, there are few who will be interested in a substantial research career.²⁴ This should not discourage us in academic family medicine but rather, this fact supports the need to tailor strategies for clinician-teachers who have different levels of research interest. Viewing research engagement using the ecology framework²⁴ can help academic family physicians articulate their research interest, and in so doing, departments can better understand how to tailor their strategies to meet the needs of each clinician-teacher. In other literature, authors spoke of practical strategies around release or dedicated time,^{8,11,15} including more dedicated time for those with an interest in research.¹⁶ Even though we had discouraged discussion of external resources as a strategy to build research culture and capacity, participants nevertheless raised this strategy repeatedly, albeit in the more realistic sense that existing resources needed to be used in a tailored fashion to engage research-interested clinician-teachers. There is much agreement in the literature about the importance of providing resources, structures, and processes that support research.^{4,6,9,12} Much of the literature highlights the importance of leadership, a research vision (or goals and culture), and celebrating research success.^{4,11-13} Likewise, our participants paid substantial attention to these research motivators.

In addition to the comparison with the literature described above, the workshop illuminated the commonalities and differences among the 3 roles with regard to how participants envision research capacity building in DFMs. With the exception of clarity of expectations and leadership and vision (not mentioned while playing the mentor role), the themes were identified by all 3 roles. Despite identifying common themes, a strength of the workshop was the nuance that resulted from participants taking on different roles. While playing the clinician-teacher role, participants focused on personal and pragmatic issues (such as joining PBRNs and requiring time and money), and stressed the important contribution clinician-teachers bring to the research enterprise. When enacting the role of department chair, participants focused on leadership, which included departmental research strategies and the need to advocate for research in their departments. Additionally, they believed finding a research interest was important for clinician-teachers, whereas mentors went even further, stating that clinician-teachers must find a research passion. The mentor and department chair roles stressed that it was necessary to first identify those clinician-teachers interested in research, and then provide a tailored approach to supporting them. The wrap-up discussion further elucidated the importance of considering context: for a DFM, its level of research maturity; and for clinician-teachers, their clinical and teaching responsibilities.

Recommendations

Based on the workshop findings, we make 4 recommendations to DFMs that are interested in promoting a research culture and increasing research capacity.

First, department chairs must provide leadership and vision and allocate resources efficiently to create a supportive research environment. Without this foundational support, other strategies will not succeed.

Second, DFMs must pay attention to their research environment. Before engaging in interventions to increase research capacity, each DFM must apply its own contextual lens and enact strategies most appropriate for their context. For example, a small DFM just starting a research program might focus on building linkages with other departments within or outside its own university; whereas, a relatively large DFM in a research-intensive university might provide more instrumental infrastructure support and protected research time to clinician-teachers.

Third, DFMs should take account of clinician-teachers' context with respect to workload and time commitments. Departments can then tailor their approach by offering varying levels of research engagement, from minimal to intense, and provide clarity around the expectations of the clinician-teacher for each of these levels. This tailoring must include providing the resources, structures, and processes that encourage research success at the chosen level.

Fourth, clinician-teachers who are interested in research should be encouraged to find research topics that have personal relevance. The DFMs should provide mentors who can respond to these interests, facilitate relevant collaborations, and determine training needs in order to help clinician-teachers gain confidence in conducting research.

These recommendations represent the collective wisdom of the NAPCRG workshop participants, offering instrumental strategies for building a research culture and increasing research capacity in academic DFMs to engage clinician-teachers in family medicine and primary care research. The findings from this international workshop complement the work being done in Canada by the College of Family Physicians of Canada.²⁵

Strengths and limitations

The workshop was well attended, attracting participants from across and outside North America, notable because it took place at the end of the day, late in the conference schedule. This speaks to the continued salience of the challenge of building a research culture and increasing research capacity across DFMs. The workshop's strength was the use of a simulation exercise that required each participant to take on 3 different roles and answer 3 different, albeit interrelated, questions appropriate to each role. This provided insight on variations and nuances in themes across roles. A limitation of this study was that it included only participants who attended the 2014 NAPCRG, which is an annual meeting about research. It might be expected that these participants would be more supportive of research in

DFMs. Reaching out to those who have less interest in research might provide additional insights on how to increase research capacity in DFMs.

Conclusion

The analysis of data arising from this simulation workshop elucidated practical strategies for building and sustaining research in DFMs. There is a clear indication that one size does not fit all with respect to strategies for building a research culture in a DFM; our recommendations guide departments to tailor strategies to their unique context. From the workshop discussions, there were common themes among the roles, yet variation in the emphasis when participants played different roles. This suggests people in these actual roles in DFMs might understand and enact strategies differently. The challenge is to build on commonly identified strategies and view differences as opportunities to build synergy that move the research capacity-building agenda forward. 🌱

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Contributors

Dr Ryan and **Ms Thorpe** contributed to the concept and design of the study, analysis and interpretation of the data, and drafting and revising of the manuscript. **Drs Zwarenstein, Wickett,** and **Wetmore** contributed to the concept and design of the study, analysis and interpretation of the data, and revising the manuscript. **Dr Talukdar** was involved in the interpretation of the data and revising the manuscript. **Ms Boisvert** was involved in the analysis and interpretation of the data and revising the manuscript. All authors approved the final version of the manuscript submitted for publication.

Competing interests

None declared

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