

# Needs assessment for development of 6for6

*Longitudinal research skills program tailored to rural and remote family physicians*

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## Abstract

**Problem addressed** Rural and remote family physicians (RRFPs) face greater barriers to research engagement than their urban colleagues and have access to fewer faculty development programs (FDPs) to foster their research skills.

**Objective of program** To identify and prioritize skills and services that RRFPs need to engage in research.

**Program description** Memorial University of Newfoundland in St John's used a needs assessment as the foundation for developing an FDP for RRFPs. The assessment comprised a systematic literature review and environmental scan, key informant interviews (n=10), a focus group with RRFPs (n=15), expert group meetings (n=2), and needs assessment surveys (n=19).

**Conclusion** The assessment identified barriers to RRFPs engaging in research, priority considerations for the development of a research FDP for RRFPs, and research areas to be included in the program curriculum. This information was used to inform phases 2 and 3 of program development, which are further discussed in a companion article.

### EDITOR'S KEY POINTS

- Rural and remote family physicians (RRFPs) need the skills to conduct research that is relevant to their patient populations. The purpose of the 6for6 program was to establish a research faculty development program (FDP) for RRFPs at Memorial University of Newfoundland in St John's.
- To ensure that the FDP addressed the unique needs of this group of physicians, the first phase of program development was a needs assessment targeting these RRFPs. The needs assessment identified important topic areas, barriers to conducting research, and considerations for development of an FDP to inform the design of the 6for6 curriculum, which is further discussed in a companion article.

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# Évaluation des besoins en vue de l'élaboration de 6for6

*Programme longitudinal de formation en recherche à l'intention des médecins de famille en régions rurales et éloignées*

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## Résumé

**Problème à l'étude** Les médecins de famille ruraux et éloignés (MFRE) sont aux prises avec des obstacles plus considérables à leur participation à la recherche que leurs homologues urbains et ils ont accès à moins de programmes de perfectionnement professoral pour améliorer leurs compétences en recherche.

**Objectif du programme** Identifier par ordre de priorité les compétences et les services dont les MFRE ont besoin pour participer à la recherche.

**Description du programme** L'Université Memorial de Terre-Neuve à St. John's s'est servi d'une évaluation des besoins comme fondement pour élaborer le perfectionnement professoral à l'intention des MFRE. L'évaluation comportait une révision systématique des ouvrages scientifiques, une analyse environnementale, des entrevues avec des informateurs clés (n=10), un groupe témoin de MFRE (n=15), des rencontres avec des experts (n=2) et des sondages d'évaluation des besoins (n=19).

**Conclusion** L'évaluation a permis de cerner les obstacles que rencontrent les MFRE lorsqu'ils veulent faire de la recherche, les éléments prioritaires à considérer dans le perfectionnement professoral en recherche à l'intention de MFRE, de même que les domaines de recherche à inclure dans le cursus du programme. Ces renseignements ont servi à éclairer les deuxième et troisième étapes de l'élaboration du programme, dont on discute de manière plus approfondie dans un article d'accompagnement.

### POINTS DE REPÈRE DU RÉDACTEUR

- Les médecins de famille ruraux et éloignés (MFRE) ont besoin de compétences pour effectuer des recherches qui sont pertinentes à leurs populations de patients. Le projet 6for6 avait pour objectif d'instaurer un programme de perfectionnement professoral en recherche à l'intention des MFRE à l'Université Memorial de Terre-Neuve à St. John's.
- Pour veiller à ce que le perfectionnement professoral réponde aux besoins particuliers de ce groupe de médecins, la première étape de l'élaboration du programme comportait une évaluation de leurs besoins. Cette analyse a permis de cerner d'importants sujets à couvrir, les obstacles aux travaux de recherche et les éléments à prendre en compte dans l'élaboration du perfectionnement professoral pour éclairer la conception du cursus 6for6, dont on parle plus en détails dans un article d'accompagnement.

Cet article a fait l'objet d'une révision par des pairs.  
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**B**uilding capacity for research is important for the pursuit of evidence-based knowledge and practice among family physicians. Many family physicians teach across the medical learning continuum and must impress upon learners, both in the classroom and in the workplace, the knowledge, skills, and attitudes necessary to be a successful clinician. This includes the ability to be a physician scholar who maintains a clinical practice while also teaching and engaging in and publishing research.<sup>1</sup> To do so, family physician educators need to be competent and confident to foster a scholarly approach to medicine among medical learners. Asking critical questions, accessing and evaluating the evidence, and applying this knowledge thoughtfully in the care of their patients empowers them to nurture these competencies in their learners. It is essential that family physicians avail themselves of faculty development opportunities to enhance their research skills.<sup>2-4</sup> By strengthening such skills, research-oriented faculty development programs (FDPs) help equip physician teachers with the competencies required to contribute to the advancement of their discipline.<sup>5,6</sup>

Practising in rural and remote regions of Canada presents many important clinical challenges. These arise from context-specific factors that make solutions to health problems in rural communities different.<sup>7,8</sup> Compounding this is the limited amount of research conducted in rural and remote contexts to grapple with and help understand how to improve patient care and outcomes for rural patients and rural communities.<sup>7,8</sup> Rural doctors need the skills to conduct the research that is relevant to their patient populations.

Faculty development programs that support research skills among rural and remote family physicians (RRFPs) are limited. A key challenge is the increasingly distributed nature of our teaching programs, which rely on community-based physicians to teach in their practices. Physicians in rural and remote regions of Canada face greater barriers to research engagement compared with urban physicians.<sup>9,10</sup> Many RRFPs have practices and clinical service commitments that do not support or reward engagement in research. Further, RRFPs face prolonged work hours, extended on-call arrangements, teaching commitments, and geographic isolation that limits participation in faculty development initiatives.<sup>9,11-13</sup> However, the literature suggests that mentorship, interactive skills-based didactic education, and networking are viable strategies for research capacity building.<sup>14-17</sup>

The purpose of this program was to establish an FDP for RRFPs at Memorial University of Newfoundland (MUN) in St John's, where 130 part-time preceptors appointed or cross-appointed to the Discipline of Family Medicine practise in rural and remote communities. Named *6for6*, this program is an evidence-informed,

longitudinal FDP for 6 selected RRFPs to participate in 6 face-to-face sessions at the main campus over the span of 1 year. To ensure that the FDP addressed the unique needs of this group of physicians,<sup>18</sup> the first stage of program development was a targeted assessment of the needs of these RRFPs.

### Program objectives

Short-, medium-, and long-term objectives were identified.

- Short term: To identify and prioritize skills and services that RRFPs need to engage in research.
- Medium term: To establish and evaluate a longitudinal FDP that promotes a foundation of research activity.
- Medium term: To facilitate a process for knowledge translation and social capital building<sup>19</sup> among RRFPs to build and support strong rural family medicine research capacity.
- Long term: To demonstrate improved rural patient outcomes through relevant research.

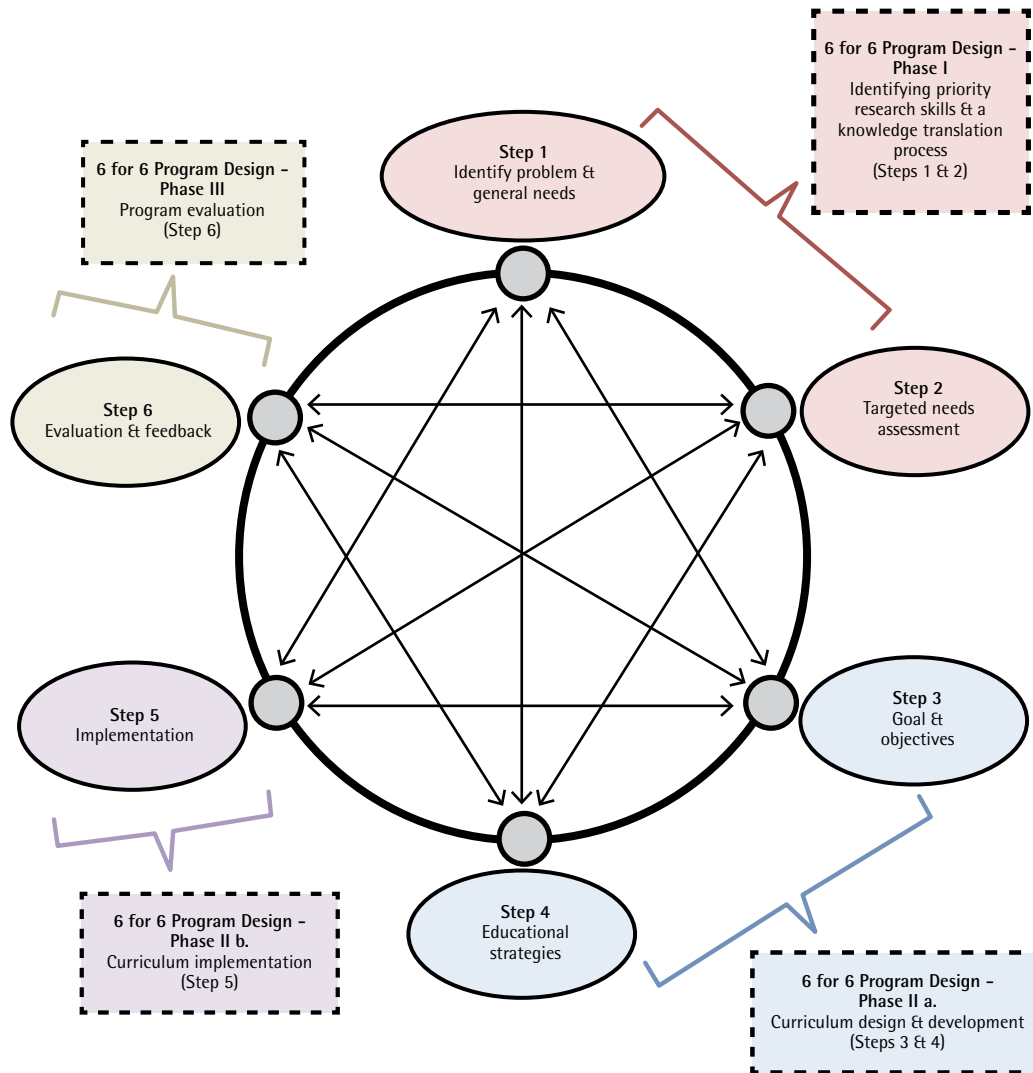
### Program description

The development of *6for6* was multifaceted, using a mixed-methods design across 3 distinct methodologic phases to establish and evaluate an FDP that fosters research activity and knowledge translation among RRFPs.<sup>20</sup> This report details the first of these phases: a targeted needs assessment to identify and prioritize skills and services that RRFPs need to engage in research. The results of this assessment provided the foundation for curriculum design, development, and implementation in phase 2 and program evaluation in phase 3. Each phase of program development was guided by Kern and colleagues' 6-step curriculum development approach for medical education (**Figure 1**).<sup>21</sup>

**Data collection.** **Figure 2** shows the methods used by the research team to identify priority research skills and a knowledge translation process for participating RRFPs. Each of these methods is detailed briefly below and more expansively in **Figure 3**. Data sources were validated through triangulation, a technique of combining multiple research methods in the study of a single issue, whereby the results from each are cross-referenced to verify agreement between their messages. This increases the researcher's confidence in the accuracy of the findings.<sup>22</sup> Triangulation was done as information was obtained, continuously refining the information carried forward into the subsequent phases of program development.

**Panel of experts.** A group of stakeholders (n=7) comprising 2 family medicine researchers, a rural family physician, an epidemiologist, a medical education specialist, a director of faculty development, and a director of research with the Faculty of Medicine at MUN

Figure 1. Curriculum development plan



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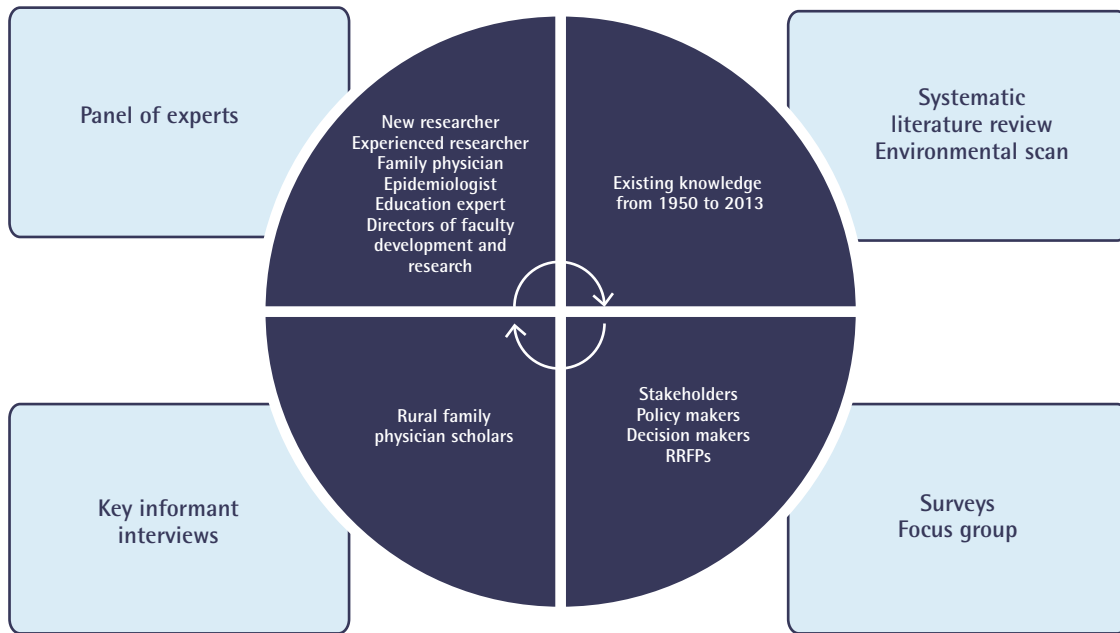
participated in 2 expert group meetings. The panel met together except on one occasion when a stakeholder could not attend one of the meetings. The research team consulted this stakeholder at a different time, ensuring the stakeholder's perspectives on the 6for6 curriculum design were taken into account. These meetings helped to inform the overall framework of 6for6 and shaped the program's knowledge, skill, support, and community leadership development outcomes.

**Systematic literature review and environmental scan.** A systematic literature review (Figures 3 and 4) and an environmental scan (Figure 3) were performed. Priority topics to enhance RRF research engagement were gathered

and information about other FDPs designed to promote research among clinicians were collected.

**Key informant interviews.** Purposeful and snowball sampling techniques were used to recruit Canadian rural family physician scholars ( $n=10$ ) for telephone interviews (Figure 3). These semistructured interviews were audiorecorded, transcribed verbatim, and analyzed with NVivo software using thematic analysis<sup>23</sup> by 2 double-blind coders experienced with this technique (P.M., S.F.). The results were reviewed by another researcher (S.A.) experienced in thematic analysis who resolved differences between the 2 sets of coding and collapsed or merged codes where appropriate. The 3 researchers then

Figure 2. Methods to identify priority research skills and a knowledge translation process for RRFPs



RRFP—rural or remote family physician.

reviewed and discussed the final results to identify main overarching themes.

**Focus group discussions.** A focus group was held with RRFPs (n = 15) with representation throughout Newfoundland and Labrador (NL) and Iqaluit, Nunavut. Owing to geographic distribution and the busy schedules of participating rural physicians, we held only 1 focus group during an annual preceptor meeting. The focus group discussion was audiorecorded, transcribed verbatim, and analyzed using thematic analysis (P.M., S.F.).<sup>23</sup> The procedure was identical to that used for the interviews.

**Broad needs assessment survey.** Using convenience sampling, a broad needs assessment survey was administered to RRFPs (n = 19) who had voluntarily attended a rural research luncheon as part of an annual local family medicine education forum (Figure 3). The survey was designed to collect information identified by the research team as being important for program development.

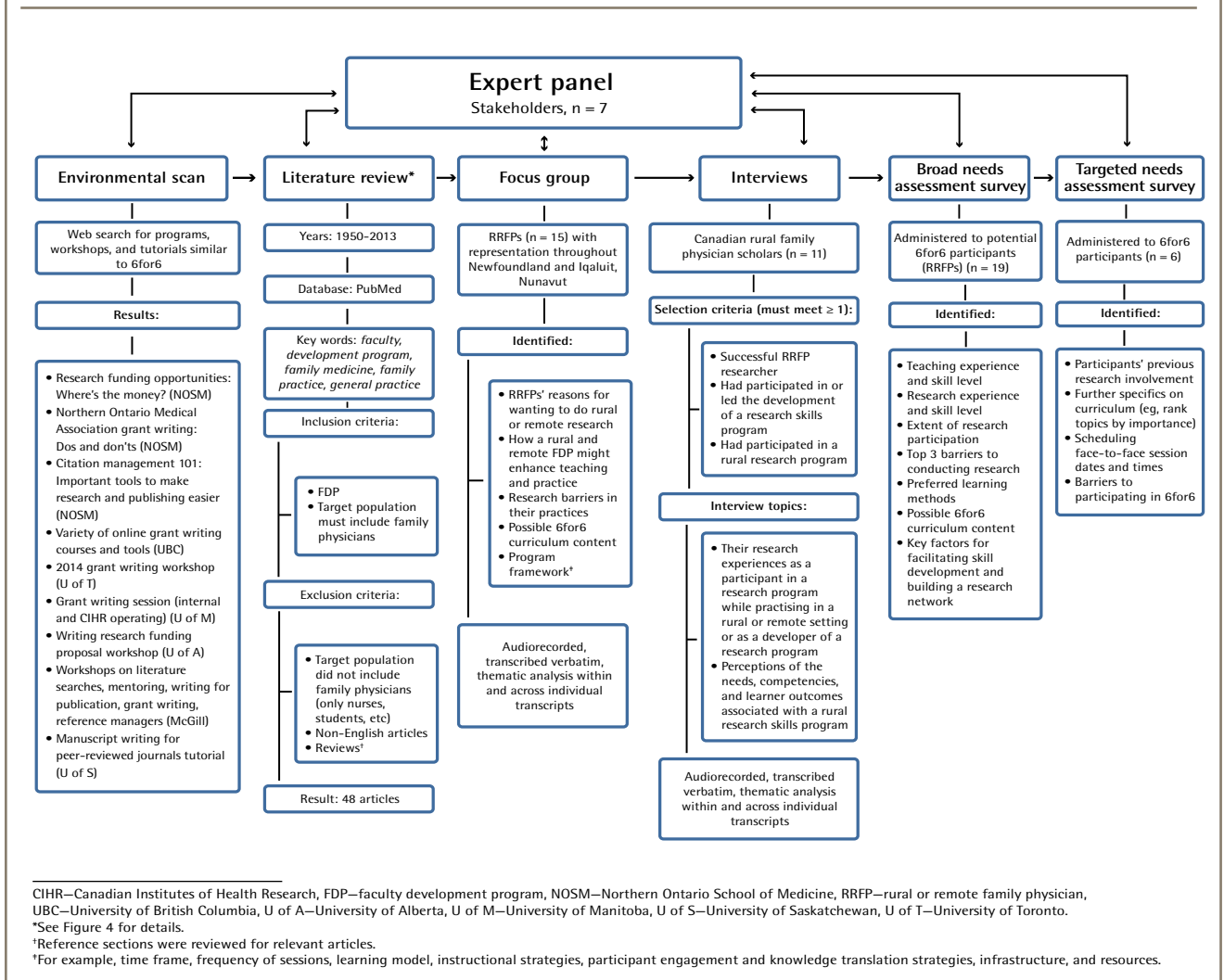
**Targeted needs assessment survey.** To gain further perspective and the specific needs relevant to the first group of 6 participating physicians, a targeted needs assessment survey was administered to those participants (Figure 3).

**Barriers to research in rural and remote areas.** Figure 5 illustrates the frequency with which barriers to research were identified by RRFPs participating in the focus group (n = 15) and key informant interviews (n = 10). Limited time to dedicate to research or busy schedules was the most commonly cited barrier for RRFPs, followed by feelings of intimidation, limited research skills, and limited access to research support and resources and financial support.

**Considerations for the development of a research FDP.** Focus group members and key informants also identified several priority considerations for the development of a research FDP for RRFPs (Figure 6). Of primary interest was the availability of research help and support. Other priority considerations included the opportunity for collaboration and networking, facilitation of local resources to enable research activity, content relevant to rural and remote settings, and the integration of research mentorship as an element of guidance and support.

**Skills and services to engage RRFPs in research.** Needs assessment findings shown in Table 1 supported the frequency of barriers to research engagement for RRFPs, and further specified research areas or topics of importance to be addressed in a research curriculum. According to a sample of RRFPs, data collection procedures (n = 8),

Figure 3. Development of the 6for6 program



writing (n = 7), data analysis techniques (n = 6), and information around sources of research funding (n = 5) were among the highest ranked based on importance. Other areas including the process for seeking ethics approval (n = 3) and locating relevant literature (n = 2) were also identified.

**Data triangulation.** The research team triangulated the data sources as information was gathered, and once a consensus had been reached, feedback was solicited from the panel of experts. This holistic approach iteratively refined the final interpretations of the data, which were then used to inform the subsequent phases of program development.

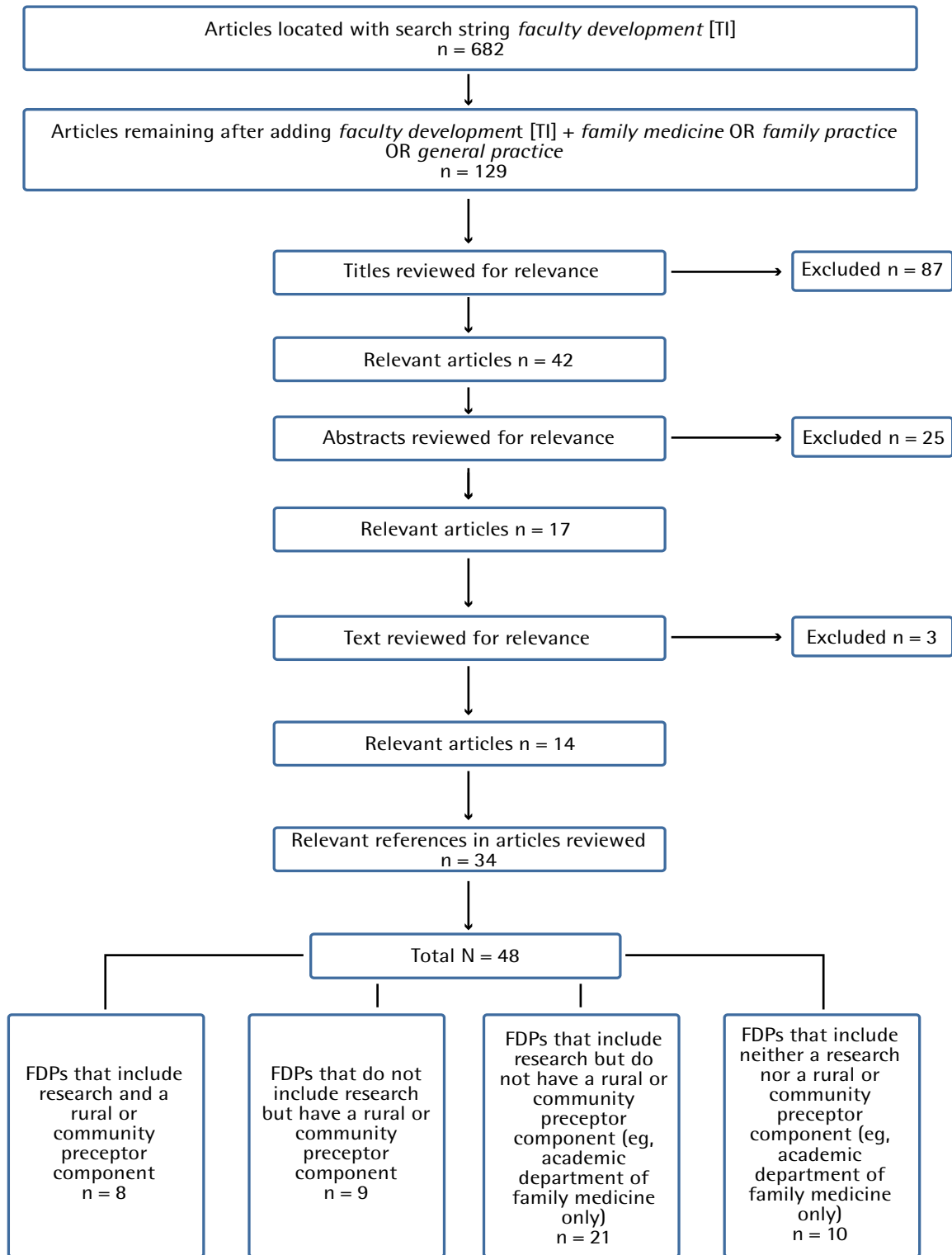
## Discussion

The needs of RRFPs were assessed in this first phase of program development. In congruence with the literature,<sup>10,12,13,18,24</sup> we found that RRFPs from NL frequently

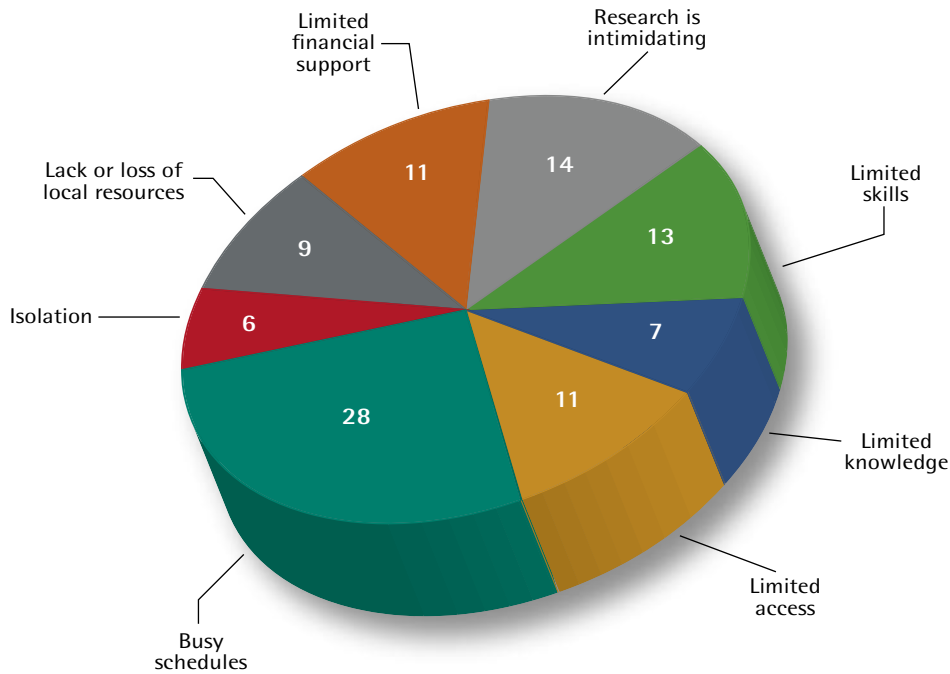
face barriers to research engagement, including busy schedules, isolation, and intimidation. We also identified priority considerations for faculty development in research, including an overwhelming need for logistical support, and 6 research areas to be included in the program curriculum.

While few programs have targeted RRFPs, fewer appear to have involved the participants to identify their perceived needs and learning environment. Our approach differs from other FDPs developed in Canada and abroad, which did not assess the needs of the potential participants themselves before establishing a curriculum.<sup>11,25-27</sup> Using this information to inform the subsequent second and third phases of program development, 6for6 was constructed around the needs of its participants. It addresses rural challenges in all aspects of the design and stands in contrast to other FDPs by being fundamentally learner centred. Active, social, and contextual learning are built into 6for6 through

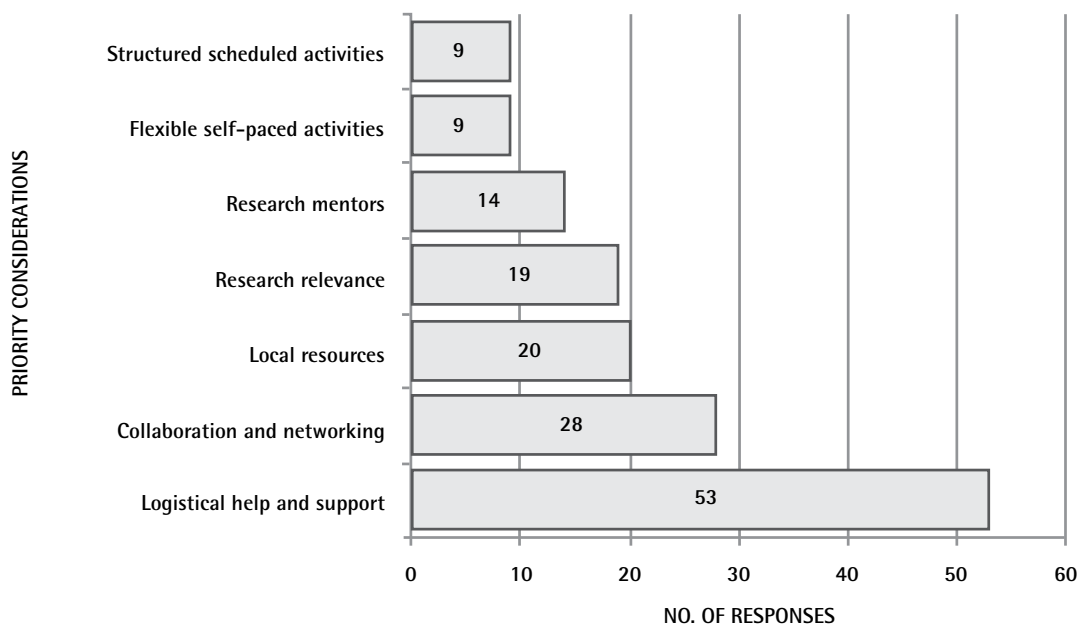
Figure 4. Literature search



FDP—faculty development program, TI—title [search-field descriptor].

Figure 5. Barriers to research identified by RRFPs:  $N = 25$ .

RRFP—rural or remote family physician.

Figure 6. Priority considerations for faculty development in research skills:  $N = 25$ .

- research projects that promote intrinsic motivation and encourage participants to take ownership of their learning,
- a curriculum that teaches participants to conceptualize research ideas within a framework, and
- efforts to connect participants with MUN faculty interested in similar research.

The 6for6 program also uses didactic and e-learning instructional strategies to cement learning and is flexible to accommodate the individual needs and personal situations of participants. The learner-centred elements of 6for6 are further discussed in a companion paper outlining the development of the program (e89).<sup>28</sup>



**Table 1. Research areas to be included in the 6for6 curriculum according to needs assessment survey respondents: N= 19.**

RESEARCH AREAS	NO. OF RESPONSES
Data collection	8
Scholarly writing	7
Data analysis	6
Sources of research funding	5
Ethics approval	3
Locating relevant literature	2

### Limitations

This program should be interpreted in light of its limitations. One might suggest that the semistructured key informant interview results might not represent the perspective of all RRFP scholars. The key informant interviews were continued until saturation was achieved, which is considered sufficient in qualitative studies. Second, we assessed the needs of RRFPs specifically from NL, so our results might not generalize to other jurisdictions. However, our multifaceted approach to identifying priority research skills using a targeted needs assessment could be applied elsewhere to develop an FDP tailored to a specific jurisdiction.

### Conclusion

Phase 1 of the development of 6for6 used a targeted needs assessment to uncover barriers to research in rural and remote areas, and identify and prioritize skills and services required to engage RRFPs in research. This assessment comprised a systematic literature review and environmental scan, key informant interviews, a focus group with RRFPs, expert group meetings, and needs assessment surveys. Rural and remote family physicians from NL most frequently face the barrier of limited time to dedicate to research owing to busy clinical responsibilities and noted a substantial need for research help and support. We also identified 6 research areas to be addressed in a research curriculum. The results of this assessment informed the design, development, and implementation of the curriculum in phase 2 of program development (in which didactic session structure, educational strategies, and program infrastructure of 6for6 were established<sup>28</sup>) and program evaluation in phase 3. Our approach of using a needs assessment as the basis for program development differs from other FDPs, which have not assessed the needs of their participants before establishing a curriculum, and has broad applicability for those seeking to develop an FDP tailored to their jurisdiction.

**Ms McCarthy** is a member of the core planning team for 6for6 and a doctoral candidate with a focus on medical education at Memorial University of Newfoundland (MUN) in St John's. **Dr Bethune** is the primary investigator for the 6for6 project, former Director of Faculty Development in Family Medicine at MUN, and a family physician. **Ms Fitzgerald** is a student in social work at MUN and was a research assistant for 6for6. **Dr Graham** is a member of the core planning team for 6for6, a family physician practising in rural Newfoundland

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### Contributors

All authors contributed to the concept and design of the program, the needs assessment, and preparing the manuscript for submission.

### Competing interests

None declared

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