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ORIGINAL ARTICLE

Learning Networks: How Family Medicine Departments Are Meeting the Requirement

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ABSTRACT

Background and Objectives: In 2023, the Accreditation Council for Graduate Medical Education added participation within a "learning collaborative" or "learning network" (LN) as a requirement for family medicine residencies. The structure and scope of what makes an acceptable LN was only vaguely defined. The purpose of this study was to learn how many family medicine residencies associated with departments already belong to LNs, the purpose and funding of these existing LNs, and barriers to entering LNs.

Methods: An online survey was sent to family medicine department chairs through a Council of Academic Family Medicine Educational Research Alliance omnibus study from August to September 2023. Survey questions explored the purpose, structure, and funding of LNs that associated residency programs already belonged to as well as the chairs' beliefs and knowledge about LNs.

Results: Of the 227 chairs, 119 completed the survey (50.2%). About 53% reported that their department was part of an LN, with more than one-third belonging for 5 years or less; 47% had a low understanding of what an LN is; and 71% had little to no concern that collaborating in an LN would negatively affect residency recruitment. The purpose of most LNs was a mix of research, education, and clinical activities. Faculty's lack of knowledge about LNs and lack of time were the top barriers identified to joining an LN. Funding was varied, and departmental funding was positively associated with administrative control of the LN.

Conclusions: About half of the residency programs associated with family medicine departments already belong to LNs. Wide variation among existing LNs may lead to significantly disparate outcomes for residents and residencies as they navigate this new requirement.

INTRODUCTION

Beginning in 2023, the Accreditation Council for Graduate Medical Education (ACGME) requirements for training in family medicine (FM) strongly encourage all residencies to use "learning collaboratives," also called communities of practice, learning communities, or learning networks (LNs).[1] While this is the first time LNs have appeared within the ACGME requirements for FM, the concept is not new. A search of the literature suggests that multiple LNs already exist across the country. Existing LNs vary significantly in structure and scope.[2]

Learning networks are mechanisms to support and hasten the diffusion and implementation of innovation, clinical evidence, and effective models of care.[3] LNs are not designed to implement a specific model, process, or program; they provide the participating teams a topic of focus and foster the development of local educational, quality improvement, and/or programmatic changes specific to the goals and needs of each team's organization.[4] Within the context of residency requirements, ACGME encourages LNs to achieve educational and community goals as well as to create and share scholarly activity.[1]

Leaders in the specialty of family medicine have embraced the overall concept and expressed a belief that LNs will improved family medicine education overall.[5] Additionally, some positive educational outcomes of LNs have been identified and reported in the medical literature.[4]

Unfortunately, ACGME only vaguely defined LNs within family medicine as a group of "multiple parties that work together toward a certain set of mutually agreed upon objectives" and did not give parameters regarding the minimal level of infrastructure needed to successfully establish and

administer an LN.[1] This vacuum of information could lead to residencies across the country attempting to meet this requirement in very different ways. For residency programs affiliated with departments of family medicine, the construction and oversight of these LNs may fall to department leadership, which may influence the final focus and structure of the networks.

The purpose of this study was to learn how many residencies within family medicine departments already belong to LNs and to describe what types of LNs those are. Secondarily, we sought to determine what barriers exist to creating or joining an LN for those departments not already belonging to one. Lastly, we sought to describe the attitudes and beliefs of family medicine department chairs about LNs.

We had three main hypotheses: (a) Most department chairs would report their residencies already belonged to an LN; (b) the existing LN to which residencies already belonged would have divergent focus areas; and (c) time and money would be perceived as the greatest barriers to joining an LN.

METHODS

Our questions were part of an omnibus study conducted by the Council of Academic Family Medicine Educational Research Alliance (CERA).[6] The methodology of CERA studies has been described previously in detail.[7] The CERA steering committee evaluated our questions for consistency with the overall subproject aim, readability, and existing evidence of reliability and validity. Pretesting was done on family medicine educators who were not part of the target population. Following pretesting, questions were modified for flow, timing, and readability. The project was approved by the American Academy of Family Physicians Institutional Review Board in August 2023. Data were collected from August 8 to September 15, 2023.

The sampling frame for the survey was family medicine department chairs as identified by the Association of Departments of Family Medicine (ADFM). Email invitations were delivered with the survey using the online program SurveyMonkey (SurveyMonkey, Inc). After the initial email invitation, five follow-up emails were sent weekly to encourage nonrespondents to participate, and a sixth reminder was sent the morning the survey closed. At the time of the survey, 213 US department chairs and 17 Canadian department chairs were identified. One US email was undeliverable. One person in the United States and one person in Canada indicated they were no longer a department chair, and no replacement chair had been identified. The survey was delivered to 227 department chairs (211 US and 16 Canadian).

χ^2 analyses were used to test for associations between variables.

RESULTS

A total of 119 department chairs responded to the survey invitation. Five surveys were abandoned after answering only the first demographic question and were removed from the results, leaving 114 responses and an overall response rate for the survey of 50.2% (114/227). Table 1 reports the demographics of the respondents. Most respondents were department chairs at medical school based departments in urban population centers. The majority were White, male, and over the age of 50 years.

To establish the representativeness of the respondents, we also present inTable 1 limited demographic data for 199 of the entire sample. These data were compiled by CERA from a combined ADFM/North American Primary Care Research Group (NAPCRG)/Society of Teachers of Family Medicine (STFM) database. These are three of the academic organizations in family medicine: ADFM for family medicine department chairs, NAPCRG for primary care researchers, and STFM for anyone involved in education of family physicians. The comparison shows that the respondents to this survey were largely similar to the overall makeup of the sample pool.

Table 2 summarizes responding chairs' knowledge and beliefs about LNs. Just over half of chairs reported understanding the term learning network well or completely. About two-thirds agreed with ACGME's assessment that belonging to an LN is valuable for a family medicine residency. Over 30% of respondents believed that their residency program directors would have moderate or large concerns about resident recruiting competition within LNs, meaning that frequent interaction with other programs could result in direct competition for potential residency recruits.

Just over half (53.2%) of chairs reported that their residency program already belonged to an LN (Table 4). Most chairs whose residency programs already belonged to an LN believed that the new ACGME requirements would have an impact on their LN. Contrary to one of our hypotheses, among those chairs whose residency did not already belong to an LN, the top perceived barriers to joining one included a lack of local knowledge, skilled personnel, and time. Financial concerns were the top concern for less than 5% of respondents.

Among those already belonging to an LN, more than a third had belonged for 5 years or less. On the other hand, 28.8% reported belonging for more than 10 years. Nearly 70% of these LNs were regional or statewide. The purpose of most of these LNs was a mix of research, education, and clinical activities. Funding for these existing LNs varied widely. Departments contributed at least some funds to a large percentage of the existing LNs. Departments have partial or full control over about half of these LNs. Having complete or partial control over the LN was strongly associated with department funding. Departments providing some funding had full administrative control 47.8% of the time compared to only 12.9% for departments not providing funding (P<.001).

Department size, as measured by full-time equivalent quartile, was statistically associated with belonging to a learning network (P=.04). Among the smallest quartile departments, 40.0% of residency programs belonged to an LN while 61.5% of the largest quartile departments belonged to an LN.

TABLE 1. Demographics of Survey Respondents and Limited Comparison to Demographics of Entire Sample Population

	Respondents, N=114 n (%)	Entire sample, N=199 n (%)
Type of residency (n=114)		
Medical school based	63 (55.3)	
Community-based, medical school affiliated	22 (19.3)	
Community-based, medical school administrated	11 (9.6)	
Community-based, nonaffiliated	2 (1.8)	
Military	0	
Don't have a residency	7 (6.1)	
Other (please specify)	9 (7.9)	
Region (n=114)		
New England (NH, MA, ME, VT, RI, or CT)	8 (7.0)	12 (6.0)
Middle Atlantic (NY, PA, or NJ)	20 (17.5)	29 (14.6)
South Atlantic (PR, FL, GA, SC, NC, VA, DC, WV, DE, or MD)	18 (15.8)	39 (19.6)
East South Central (KY, TN, MS, or AL)	8 (7.0)	13 (6.5)
East North Central (WI, MI, OH, IN, or IL)	18 (15.8)	30 (15.1)
West South Central (OK, AR, LA, or TX)	9 (7.9)	23 (11.6)
West North Central (ND, MN, SD, IA, NE, KS, or MO)	10 (8.8)	14 (7.0)
Mountain (MT, ID, WY, NV, UT, AZ, CO, or NM)	7 (6.1)	12 (6.0)
Pacific (WA, OR, CA, AK, or HI)	8 (7.0)	16 (8.0)
Canada	8 (7.0)	11 (5.5)
Community size (n=110)		
Less than 30,000	2 (1.8)	
30,000 to 75,000	6 (5.5)	
75,001 to 150,000	12 (10.9)	
150,001 to 500,000	30 (27.3)	
500,001 to 1 million	22 (20.0)	
More than 1 million	38 (34.5)	
Gender (n=112)		
Female/woman	42 (37.5)	70 (35.2)
Male/man	70 (62.5)	121 (60.8)
No response	0	8 (4.0)
Race/ethnicity (n=112)		
American Indian/Alaska Native/Indigenous	0	1 (0.5)
Asian	10 (8.9)	15 (7.5)
Black or African American	13 (11.6)	23 (11.6)
Hispanic/Latino/of Spanish Origin	6 (5.4)	11 (5.5)
Middle Eastern/North African	0	0
Native Hawaiian/other Pacific Islander	0	1 (0.5)
White	79 (70.5)	139 (69.9)
Selected more than one of the above	2 (1.8)	Not an option
Chose not to disclose	2 (1.8)	19 (9.6)

TABLE 1, Continued

	Respondents, N=114 n (%)	Entire sample, N=199 n (%)
Underrepresented in medicine (n=110)		
No	86 (78.2)	
Yes	24 (21.8)	
Age (n=111)		
20–29 years	0	0
30–39 years	4 (3.6)	2 (1.0)
40–49 years	17 (15.3)	38 (19.1)
50–59 years	42 (37.8)	65 (32.7)
60–69 years	39 (35.1)	70 (35.2)
70+ years	9 (8.1)	14 (7.0)
No response	0	10 (5.0)
Clerkship within the department (n=114)		
Yes	107 (93.9)	
No	7 (6.1)	

TABLE 2. **Family Medicine Department Chairs' Knowledge and Beliefs Regarding Learning Networks**

	n (%)
How well do you understand the term "learning network" (LN)? (n=110)	
Low understanding (not at all or a little)	52 (47.3)
High understanding (well or completely)	58 (52.7)
Do you agree with ACGME that it is valuable for a family medicine residency to belong to a learning network? (n=110)	
Disagree or neutral	39 (35.5)
Agree	71 (64.5)
Concern about resident recruiting competition (n=108)	
No or small concern	77 (71.3)
Moderate to large concern	31 (28.7)
How do you believe the new ACGME requirements will impact your current LN? (n=52)	
I believe there will be more focus on resident education.	10 (19.2)
I believe there will be more focus on research.	5 (9.6)
I believe there will be more focus on clinical operations.	0
I believe there will be changes that are a mix of resident education, research, and clinical operations.	19 (36.5)
I believe there will be some other change.	4 (7.7)
I do not believe it will change anything.	14 (26.9)
Top barrier for those not in an LN (n=52)	
A sense that the effort required will be more than the value gained	7 (13.5)
Lack of local knowledge or understanding of what a learning network is	12 (23.1)
Lack of financial resources necessary to initiate and/or maintain	2 (3.8)
Lack of people interested or skilled to initiate and/or maintain	9 (17.3)
Lack of time (faculty or administrative)	11 (21.2)
Concerns of competition among residency programs in the network	0
N/A	11 (21.2)

Abbreviations: ACGME, Accreditation Council for Graduate Medical Education; LN, learning network

TABLE 3. **Characteristics of Learning Networks That Family Medicine Residencies Already Belong to**

	n (%)
Does your program belong to an LN? (n=111)	
Yes	59 (53.2)
No	52 (46.8)
How long have you been in an LN? (n=59)	
<1 year	10 (16.9)
1–5 years	12 (20.3)
6–10 years	8 (13.6)
>10 years	17 (28.8)
I am not sure	12 (20.3)
Department control of LN (n=54)	
Full control	15 (27.8)
Shared control	15 (27.8)
No control	24 (44.4)
LN funding source (n=55)	
I don't know	9 (16.4)
No funding needed	11 (20.0)
Known funding source	35 (63.6)
Funding source reported (n=57)	
Department	23 (65.7)
State	9 (25.7)
Grant	8 (22.9)
Membership dues	6 (17.1)
Endowment	0
Multiple sources	11 (31.4)
Purpose of LN (n=54)	
Research	6 (11.1)
Education	15 (27.8)
Clinical	
A mix of research, education, and clinical	31 (57.4)
Other	2 (3.7)
LN can be described as… (n=54)	
Regional, but not statewide	22 (40.1)
Statewide	16 (29.6)
Multistate, but not national	9 (16.7)
National	3 (5.6)
International	0
I do not know	4 (7.4)
Frequency of meeting (n=54)	
Weekly or more	0
Monthly	13 (24.1)
Quarterly	17 (31.5)
Yearly	5 (9.3)
No set meeting schedule	4 (7.4)
I do not know	15 (27.8)

Abbreviation: LN, learning network

DISCUSSION

New ACGME requirements for family medicine make becoming a member of an LN a priority for all family medicine residencies, but no specific requirements for these LNs are given. Among residency programs associated with departments of family medicine, over half already belong to an LN according to the findings of this study. Given that residency programs associated with departments generally have more resources at their disposal, the likelihood is that fewer family medicine residencies not associated with a department already belong to an LN. Our study also found that smaller departments were less likely to have a residency program associated with an LN. Future studies should be conducted that examine how much of a burden joining or forming an LN places on smaller family medicine residency programs, those with less available resources, and those not directly connected to a department at an academic institution.

The top perceived barriers to being in an LN were knowledge, time, and skilled personnel. At the national level, some efforts are underway to better inform and equip residency programs to initiate and participate in LNs. One example is the family medicine Residency Learning Networks Leadership Training program run by STFM and sponsored by the American Board of Family Medicine to help programs, especially smaller programs and community programs, meet this ACGME requirement. Our results suggest that more training on how to start, run, fund, and maintain an LN is indeed needed.

Among the LNs to which the survey respondents belonged, the focus, funding, and administrative control seemed to vary widely. While most of these LNs had multiple purposes, nearly 30% had an exclusively educational focus. None were reported to have an exclusive clinical focus. Funding for about a third of these LNs came from multiple sources.

Departments were the most commonly reported funding source, followed by state and grant funding sources. Despite department funds being the most common source reported, nearly half of chairs reported that they did not exert control over their residency's LN. Not surprisingly, departments that did not provide funding for their LN had less administrative control over their LN. The level of administrative control may have a direct impact on how much perceived benefit a residency program gets out of belonging to an LN.

The existence of wide variation in LN structure and purpose could be viewed as a strength in that it allows each LN to address the particular needs of its participants. However, this variation also likely will lead to disparate educational outcomes for the residencies and residents within the different types of LNs. As LNs become a standard feature of family medicine training, these variations and outcomes should be studied. Possibly certain features of LNs can be identified that optimize desirable outcomes.

This is the first study to report on features of LNs that include family medicine programs. The study does have limitations. Most importantly, residency programs associated with departments represent a minority of all family medicine programs, so these findings may not be fully generalizable.

Possibly department chairs do not have full knowledge of the LNs to which their associated residency programs belong. Some departments may not have associated residency programs. A follow-up study aimed at residency program directors may more accurately examine the role of LNs within all family medicine residencies. The response rate is typical of surveys to department chairs but is still only about half of all potential respondents. All survey studies are subject to recall bias and social desirability bias.

CONCLUSIONS

Among LNs that family medicine departments currently belong to, their purpose and structure are widely varied. Additionally, department chairs identified lack of knowledge about LNs as the most common barrier to joining an LN. When combined with the lack of specific guidance from ACGME about LNs, the educational outcomes for family medicine residencies and residents likely will vary greatly in the near term.

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