

Fifty Years of Connection: Characterizing the Social Network of a Primary Care Research Organization

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ABSTRACT

PURPOSE This study marks the 50th anniversary of NAPCRG (formerly the North American Primary Care Research Group) by examining social connections among members.

METHODS This descriptive social network analysis was conducted via the Program to Analyze, Record, and Track Networks to Enhance Relationships (PARTNER) survey tool.

RESULTS Responses from 906 participants resulted in 1,721 individuals with 5,196 partner relationships. Most relationships (60%) were characterized as having an integrated level of collaboration. Many relationships led to a research paper (58%) or a grant (34%).

CONCLUSIONS This social network analysis of NAPCRG members' relationships described over 5,000 relationships, many producing publications, grants, and perceived advancements in primary care.

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INTRODUCTION

This study marks the 50th anniversary of NAPCRG (formerly the North American Primary Care Research Group) by examining social connections among members. NAPCRG has long served as the premiere primary care research organization, particularly in family medicine. The mission statement defines NAPCRG as “an interdisciplinary volunteer association committed to nurturing primary care researchers working in partnership with individuals, families, and communities.”¹ NAPCRG was founded in 1972 by Dr Maurice Wood and 50 other researchers across the United States and Canada.² Over the past 50 years, NAPCRG has expanded into an international organization, and now provides a variety of programs and supportive services that enrich the membership and the field. NAPCRG intentionally creates professional development opportunities and programs for trainees and early career investigators. NAPCRG is also recognized as a pioneer in community-based participatory research. Relationships between patient partners and researchers form the bedrock of NAPCRG's highly successful Patient and Clinician Engagement (PaCE) program.

For NAPCRG's 50th anniversary, this study investigated and described the connections between members and the characteristics of those relationships.

METHODS

This study used social network analysis to examine the NAPCRG community. Social network analysis is a common approach for investigating professional communities, characterizing individual members and the relational structure among community members.³

NAPCRG invited 5,905 current/past members and nonmember participants in its activities to participate in the study via an e-mail invitation and 7 follow-up e-mails sent from a project lead (J.B.B.). Additional recruitment included publicized promotional materials using NAPCRG social media outlets, programs, and events.

The survey included 23 items querying engagement in NAPCRG and other professional communities, which other NAPCRG members with whom they have a relationship, how they characterize their relationships, and benefits derived from participating in NAPCRG. Individuals were given information about the survey and provided consent before taking the ~30-minute survey. We adapted survey

Conflicts of interest: authors report none.

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items from the validated Program to Analyze, Record, and Track Networks to Enhance Relationships (PARTNER) tool.⁴ PARTNER is a social network analysis survey and data collection/analysis platform used by communities throughout

the United States to measure and map individual and organizational networks. The PARTNER tool is available in the [Supplemental Appendix](#).

This project was a quality improvement initiative and thus not submitted to an international review board.

Table 1. Relationship Characteristics, Outcomes, and Perception of NAPCRG Success as Reported by Respondents

Relationship or Outcome Variable	n ^a	Percentage
Formation of relationship		
Through other venues/work	2,417	50.9
Developed elsewhere but strengthened through NAPCRG	1,875	39.5
Through NAPCRG committees, work groups, or training activities	1,357	28.6
Other	96	2.0
Frequency of collaborative work		
Every day	137	3.1
Every week	512	11.7
About once a month	850	19.4
About once a quarter	998	22.8
Once a year or less	1,472	33.7
Never	404	9.2
Collaborative activities		
Writing a paper	2,909	62.8
Working on a project other than a grant or paper	2,769	59.8
Developing a grant	2,023	43.7
Mentoring or co-mentoring	1,857	40.1
Friendship or social activities	1,736	37.5
Visiting each other's departments	1,209	26.1
Other activities	282	6.1
Intensity of relationship		
Integrated	2,693	60.2
Coordinated	903	20.2
Cooperative	879	19.6
NAPCRG success in supporting members		
Completely successful	33	1.5
Very successful	299	35.5
Successful	327	38.8
Somewhat successful	170	20.2
Not successful	13	1.5
Factors contributing to success		
Exchanging information/knowledge	521	63.8
Informal relationships created	418	51.2
Bringing together diverse stakeholders	417	51.0
Meeting regularly	360	44.1
Sharing resources	159	19.5
Working groups	121	14.8
Having a shared mission, goals	115	14.1
Collective decision making and action	28	3.4
Other	49	6.0

^a n denotes the number of relationships; there were 5,196 relationships reported in total.

RESULTS

The survey garnered 906 participants, who identified an additional 815 individuals who did not respond to the survey but with whom the participants reported relationships. The NAPCRG social network analysis contained 1,721 total individuals with 5,196 partner relationships. The network is represented in [Figure 1](#).

Most participants held physician (n = 228, 32%) or other primary care researcher (n = 204, 22%) memberships with NAPCRG, though one-quarter were "not currently a NAPCRG member." Participants primarily reported residing in the United States (n = 459, 52.2%) or Canada (n = 276, 31.4%). The NAPCRG annual meeting was the most common mode of participant engagement (91%).

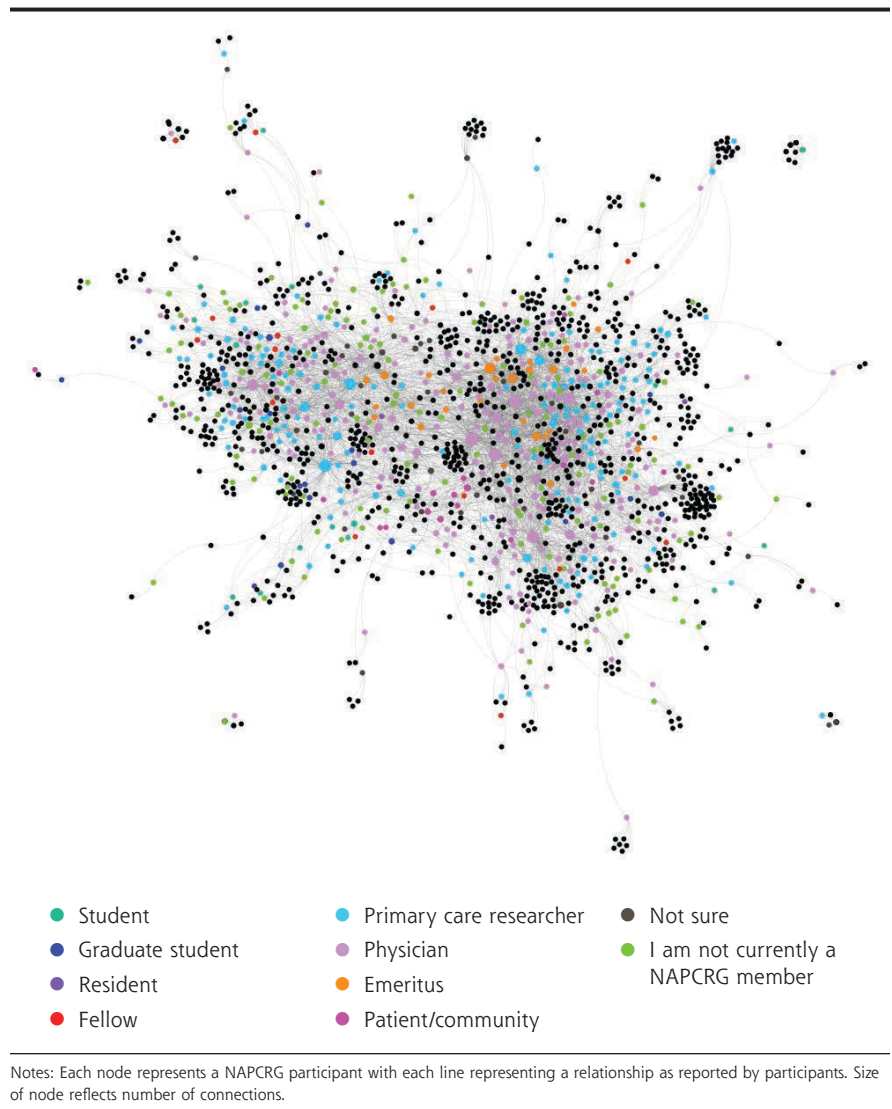
[Table 1](#) displays characteristics and outcomes. Outcome definitions are in the [Supplemental Appendix](#). Regarding levels of collaboration, most participants characterized relationships as integrated. Participants felt many relationships also led to productivity and an improvement in, or advanced the field of, primary care.

[Table 1](#) also shows participants' responses regarding NAPCRG's success. Most participants (75%) reported that NAPCRG has been successful or very successful at supporting its members' pursuits. Participants reported contributing factors like knowledge exchange and community meetings.

DISCUSSION

This analysis characterizes the relationships of 1,761 individuals connected with NAPCRG, and 5,196 partner relationships. Many of these relationships resulted in projects, publications, and grant applications. Overall, participants felt NAPCRG was successful or very successful in supporting its members.

We offer several explanations for NAPCRG's success. Participant engagement and responses to this survey suggest commitment and investment in NAPCRG. This past investment has laid the foundation for the present and provides a framework for launching the future. This is potentially reflected in the many programs and opportunities that have been facilitated by NAPCRG and built by its membership. NAPCRG offers opportunities for collaboration and mentorship by fostering a welcoming environment for all researchers at the annual meeting.⁵⁻⁷ This includes opportunities to connect investigators at all stages, which could play a role in cultivating social capital among members. Social capital is associated with increased confidence in research skills and work-related motivation, and with reduced burn out.⁸ NAPCRG empowers

Figure 1. NAPCRG participant network map.

importance of fostering these interactions. Further investigations of the qualities of dyadic relationships reported, such as mentor/mentee relationships, and the qualities of the individuals with more numerous connections, eg, key players, that emerged from this analysis may further elucidate the integral factors underpinning NAPCRG's success. Qualitative work examining responses to open-ended questions will enable deeper investigation of NAPCRG's role in facilitating connection.

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Key words: primary care; family practice; general practice; research; organizations; interdisciplinary research; community-based participatory research

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Previous presentations: Poster displaying a previous version of [Figure 1](#); NAPCRG Annual Meeting; November 2022; Phoenix, Arizona; and Oral presentation on completed research; NAPCRG Annual Meeting; October 30-November 3, 2023; San Francisco, California.

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 [Supplemental materials](#)

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diverse perspectives through investment in patient-engaged research, a known benefit to projects.^{9,10}

To our knowledge this was the first study to characterize relationships between primary care researchers. Additionally, it included preliminary accounts of relationships between investigators among multiple training backgrounds. These data are limited by response bias, recall bias, and survey length. We suspect these biases are minimized by participant commitment to the organization, participant productivity tracking as many participants likely report productivity as an aspect of academic promotion, and the large number of participants who completed the survey, despite its length.

This social network analysis offers a first look into the connections between NAPCRG members over the past 50 years. This analysis contributes to a growing literature describing how professional connections contribute to scientific success, emphasizing the role of professional networks and the