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An Exploratory Mixed Methods Study of Experiences of Interprofessional Teams Who Received Coaching to Simultaneously Redesign Primary Care Education and Clinical Practice

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Abstract

Introduction/Objectives: Coaching is emerging as a form of facilitation in health professions education. Most studies focus on one-on-one coaching rather than team coaching. We assessed the experiences of interprofessional teams coached to simultaneously improve primary care residency training and interprofessional practice. **Methods:** This three-year exploratory mixed methods study included transformational assistance from 9 interprofessional coaches, one assigned to each of 9 interprofessional primary care teams that included family medicine, internal medicine, pediatrics, nursing, pharmacy and behavioral health. Coaches interacted with teams during 2 in-person training sessions, an in-person site visit, and then as requested by their teams. Surveys administered at 1 year and end study assessed the coaching relationship and process. **Results:** The majority of participants (82% at end of Year 1 and 76.6% at end study) agreed or strongly agreed that their coach developed a positive working relationship with their team. Participants indicated coaches helped them: (1) develop as teams, (2) stay on task, and (3) respond to local context issues, with between 54.3% and 69.2% agreeing or strongly agreeing that their coaches were helpful in these areas. Cronbach's alpha for the 15 coaching survey items was 0.965. Challenges included aligning the coach's expertise with the team's needs. **Conclusions:** While team coaching was well received by interprofessional teams of primary care professionals undertaking educational and clinical redesign, the 3 primary care disciplines have much to learn from each other regarding how to improve inter- and intra-professional collaborative practice among clinicians and staff as well as with interprofessional learners rotating through their outpatient clinics.

Keywords

academic interprofessional coaching, interprofessional education, primary care residency training

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Introduction

Coaching is emerging as an effective form of facilitation in both healthcare and health professions education.[1] In healthcare, coaching can facilitate giving and receiving feedback and fostering reflection that leads to enhanced clinical practice.[1] In medical education, coaching is used to guide medical students toward becoming competent, reflective physicians and master adaptive learners.[2-4] In residency, the Prepare to ADAPT (Ask, Discuss, Ask, and Plan Together) model is encouraged as part of competency-based medical education.[5,6] ADAPT starts with self-assessment and then utilizes reflection to identify areas of concordance and/or discordance that residents can discuss with their coach.

Coaching has less frequently been used to facilitate practice change, as practice facilitators are typically used in studies of clinical transformation where they assist in adopting quality improvement and change management processes to implement new approaches to care.[7-9] However, they seldom have experience with the training of health professionals.

Complex change, such as that involving simultaneous clinical and educational redesign, requires more experienced faculty level coaching by seasoned clinician educators.

Much of the medical literature on coaching is focused on coaching individuals, such as practicing physicians or medical students.[2,10] We found just 2 articles on team coaching in the health care setting. In the first, Godfrey et al,[11] examined health care improvement team coaching in 2 national improvement collaboratives and found that supportive coaching actions could be characterized in 4 categories: context, relationships, helping and technical support. The second paper involved a cluster-randomized controlled study designed to evaluate team coaching for improving teamwork and patient-centeredness among members of rehabilitation teams.[12] This study found that team coaching improved structured team meetings, information exchange and willingness to accept responsibility during feedback sessions that occurred in real-time.[12] Weaknesses in this paper include that the setting was limited to rehabilitation clinics and the study was conducted in Germany and is not generalizable to the United States.

What is not well studied is the impact coaching has on highly complex teams of clinician educators across many disciplines and professions. We conducted an exploratory mixed methods study with 9 health professions training institutions that involved complex interprofessional teams of family medicine, internal medicine and pediatrics faculty in residency training programs as well as other health professions training programs, including nursing, pharmacy, and behavioral health. We implemented a multimodal intervention that included team-based coaching to simultaneously transform training and clinical care among these highly complex interprofessional (IP) teams, defined as interactions that occur among individuals from 2 or more health professions. The complexities of institutions, the different primary care disciplines and their training programs coupled with other health professional students warranted a mixed-methods approach, given the evaluation design was a pre-post repeated measures design. Here we report what we about what participating interprofessional teams experienced as part of the interprofessional coaching component of the intervention, which varied in terms of dose and intensity across sites.

Methods

The Professionals Accelerating Clinical and Educational Redesign (PACER) Project

PACER was a three-year quasi-experimental mixed methods exploratory study that occurred between July 2015 and June 2018.[13] Nine institutions that represented 27 primary care residency training programs with interprofessional primary care teams (family medicine, internal medicine and pediatrics) across the United States were chosen using a competitive review process that evaluated collaborative potential across disciplines, clinical and education transformation potential, and sustainability. The institutions selected represented diverse academic and health system settings. Each site recruited an interprofessional team of approximately 10 individuals that included family medicine, general internal medicine, general pediatrics, and education faculty and clinic staff from other health professions such as nursing, pharmacy and behavioral health. Each team had a designated team leader.

The interventional components of PACER included 2 in-person training sessions (18 months apart) that lasted one and a half days each and included topics that addressed common challenges across sites/projects. The content was informed, developed, and delivered by the coaches. Results from other components of the study are reported in detail elsewhere.[13] Each selected PACER team proposed their own planned activities in their respective applications, and PACER interventions were designed to enhance their skills toward implementing their own plans using longitudinal coaching to assist them through the process.

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The individuals recruited to serve as PACER coaches had extensive experience working with clinical practice and educational redesign, and all were faculty members or administrators at their respective institutions. They included a pharmacist, a doctorally trained nurse researcher, an operations director with facilitation expertise, and 6 physicians who represented one of the 3 primary care disciplines of family medicine, internal medicine and pediatrics. After recruitment, PACER coaches received: (1) an orientation to the study; and (2) a resource supplement on best practices and coaching tips distributed early in the project. The coaches' role included fostering team relationship development, helping teams overcome challenges they faced when implementing their planned approaches to simultaneous clinical and educational redesign at their respective institutions, which varied based on institutions, and helping them stay focused on change plans and timing. Coaches interacted with their teams during the in-person training sessions, during an in-person site visit, and then as requested by their teams on an ad hoc basis. We also scheduled routine coaching calls that allowed coaches to share their experiences with team coaching, one of which included a subject matter expert. Lastly, we held coaching debrief sessions following each in-person PACER training session. Each coach was paid an honorarium of $1000/year during the 3-year PACER study.

Data Collection

The quantitative components of the mixed methods evaluation involved administration of survey variables designed to assess the coaching aspects of the project. The 15 coaching variables were included in a broader survey measuring other aspects of the PACER study and were adapted from a client perception survey developed by Godfrey et al.[11] One coaching variable assessed exploring local context, 6 assessed building relationships, 7 assessed helping actions and 1 assessed offering technical support. All variables used the same five-point scale (1 = Cannot Answer; 2 = Strongly Disagree; 3 = Disagree; 4 = Agree; and 5 = Strongly Agree). The survey also included 7 questions about demographic and work-related characteristics. The survey was administered online between May and July of 2017 (end of Year 1) and at the end of the study in April-June of 2018. It was administered to all members of each of the 9 teams, and because members of the teams changed over time, not all the same team members completed the survey at both time points.

Qualitative data sources included a needs assessment survey sent to all 9 PACER teams prior to the first in-person training, comments related to coaching activities on the survey described above, open-ended questions to solicit perspectives on the best parts of PACER's coaching feature for their teams and what would make coaching better for them, and semi-structured interviews with representatives from each PACER team. The interviews were conducted by phone at the end of the study and the interview questions we included were: (1) Tell us about your experience with your coach? and (2) What can we do to enhance the coaching experience? Field notes were collected on participant responses by 3 members of the study team and these were compiled into a single document for analyses. In addition, the April 2018 survey included open-ended questions to solicit perspectives on which aspects of the PACER program were most influential. Oregon Health & Science University's Institutional Review Board reviewed and approved all PACER activities (IRB #11932).

Data Analyses

Descriptive statistics were used to characterize survey responses and Chi Square was used to compare categorical data between end of Year 1 and end of study. Independent samples t-test was used to assess continuous variables between time periods. We analyzed survey responses at both the individual level and at the team level, the latter of which we did by calculating intra-cluster correlation coefficients (ICC). ICC is a measure comparing variance within a team versus variance between teams. We calculated ICC at end of Year 1 and at the end of the PACER project time points. The ICC analysis indicated that lack of clustered responses existed; thus, we report the aggregate of individual responses here.

Qualitative data from the text comments on the surveys were analyzed using classical content analysis where emergent themes were identified and counted.[14] Qualitative data from the semi-structured interviews were analyzed using open and axial coding as well as immersion and crystallization techniques.[15] Emergent themes were identified, coded, and defined initially independently and then using a consensus process, and exemplars were chosen that best reflected those themes and were included in data presentation.

Results

The response rate for both the end of Year 1 survey and the end of study survey was 95.0% (94/99). Team participants tended to be female, white, non-Hispanic (Table 1). Five of the coaches were male and 4 were female. All were white, non-Hispanic (*data not shown*). On average, team participants had been a faculty member or clinical staff leader at their site for 11 years or more and most attended PACER Training Activities and took part in the site visits.

The most frequently cited coaching action was related to relationship building with the majority of participants (82% at end of Year 1 and 76.6% at end of study) agreeing or strongly agreeing that their coach developed a positive working relationship with their team (Table 2). Other frequently

Table 1. Characteristics of Survey Respondents According to Assessment Time Period.

Survey variable	End of year 1	End of study	*P* value
Gender	n (%)	n (%)	.28
Male	31 (33.7)	32 (29.6)	
Female	56 (60.9)	74 (68.5)	
Prefer not to say	5 (5.4)	2 (1.9)	
Race	n (%)	n (%)	.47
White	72 (78.3)	84 (77.8)	
Black/African American	2 (2.2)	7 (6.5)	
Asian	7 (7.6)	6 (5.6)	
American Indian/Alaska Native	2 (2.2)	4 (3.7)	
Native Hawaiian/Other Pacific Islander	2 (2.2)	1 (0.9)	
Mixed Race	5 (5.4)	7 (6.5)	
Ethnicity	n (%)	n (%)	.80
Hispanic, Latino or Spanish Origin	6 (6.5)	6 (5.7)	
Not Hispanic, Latino or Spanish Origin	86 (93.5)	100 (94.3)	
Discipline/Profession represented	n (%)	n (%)	.84
Internal medicine	23 (24.2)	24 (21.8)	
Family medicine	19 (20.0)	20 (18.2)	
Pediatrics	19 (20.0)	17 (15.5)	
Psychology	9 (9.5)	9 (8.2)	
Nurse practitioner	8 (8.4)	9 (8.2)	
Administration	1 (1.1)	5 (4.5)	
Evaluator	4 (4.2)	4 (3.6)	
Physician assistant	3 (3.2)	7 (6.4)	
Other nurse	4 (4.2)	8 (7.3)	
Pharmacy	4(4.2)	1 (0.9)	
Social work	1 (1.1)	1 (0.9)	
Physical therapy	0	1 (0.9)	
Behavioral health	0	1 (0.9)	
Dental	0	1 (0.9)	
Director	0	1 (0.9)	
Nursing student	0	1 (0.9)	
How many years have you been a faculty or clinical staff leader at your institution?	Mean (SD)	Mean (SD)	.18
	12.8 (7.6)	11.3 (7.8)	
Attended PACER training in April 2016	n (%)		—
Yes	81 (88.0)	—	
No	11 (12.0)	—	
Participated in PACER collaborative site visit	n (%)		—
Yes	84 (91.3)	—	
No	8 (8.7)	—	

cited actions include offering valuable encouragement to their team, (76.6% at end of Year 1 and 75.5% at end of study agreed or strongly agreed with the statement) and learning about and responding to local issues (69.2% at end of Year 1 and 64.5% at end of study agreed or strongly agreed with this statement). Ratings on accessibility of coaches were lower, with 58.5% agreeing or strongly agreeing on accessibility at end of Year 1 and 63.5% reporting this at the end of the study (Table 2). About 50% of participants reported interacting with their coach at least quarterly at the end of Year 1 which decreased to 36.4% reporting this at end study. Participants felt the coaches helped them develop as teams, stay on task and get unstuck (Table 2) with all assessment variables indicating that between 54.3% and 65.4% agreed or strongly agreed that their coaches were helpful in these areas. Of note is that a significant number of team members (13.8%-46.8%) indicated that they could not respond to many of the variables. No statistical differences were noted between end of Year 1 and end of study for any of these variables.

The qualitative analyses on the perceptions of coaching needs early during PACER implementation identified 4 emergent themes: (1) Accountability, (2) Resources, (3)

Table 2. Quantitative Assessment of Coaching Actions According to Assessment Time Period.

	End of year 1	End of study	
Coaching actions	94/99 (95%)	107/113 (95%)	*P* value
Relationship building			
Our coach developed a positive working relationship with our team.	n (%)	n (%)	.73
Cannot answer	13 (13.8)	22 (20.6)	
Strongly disagree	2 (2.1)	1 (0.9)	
Disagree	2 (2.1)	2 (1.9)	
Agree	51 (54.3)	53 (49.5)	
Strongly agree	26 (27.7)	29 (27.1)	
Our coach has been easily accessible.			.22
Cannot answer	33 (35.1)	37 (34.6)	
Strongly disagree	3 (3.2)	0	
Disagree	3 (3.2)	2 (1.9)	
Agree	37 (39.4)	53 (49.5)	
Strongly agree	18 (19.1)	15 (14.0)	
Our coach interacted with us the right amount by phone.			.18
Cannot answer	23 (24.5)	29 (27.1)	
Strongly disagree	5 (5.3)	2 (1.9)	
Disagree	11 (11.7)	14 (13.1)	
Agree	37 (39.4)	52 (48.6)	
Strongly agree	18 (19.1)	10 (9.3)	
Our coach interacted with us the right amount by e-mail.			.73
Cannot answer	36 (38.3)	43 (40.2)	
Strongly disagree	5 (5.3)	3 (2.8)	
Disagree	11 (11.7)	8 (7.5)	
Agree	33 (35.1)	42 (39.3)	
Strongly agree	9 (9.6)	11 (10.3)	
Our coach responded to our requests in a timely manner.			.2
Cannot answer	44 (46.8)	41 (38.3)	
Strongly disagree	2 (2.1)	0	
Disagree	2 (2.1)	1 (0.9)	
Agree	28 (29.8)	46 (43.0)	
Strongly agree	18 (19.1)	19 (17.8)	
How often have you been interacting with your coach in the past year?			.23
Not at all	8 (8.4)	14 (12.7)	
Once every 6 months	39 (41.1)	56 (50.9)	
Quarterly	40 (42.1)	33 (30.0)	
Once a month	8 (8.4)	7 (6.4)	
Offering help			
Our coach has offered valuable encouragement.			.62
Cannot answer	19 (20.2)	25 (23.6)	
Strongly disagree	1 (1.1)	0	
Disagree	2 (2.1)	1 (0.9)	
Agree	40 (42.6)	50 (47.2)	
Strongly agree	32 (34.0)	30 (28.3)	
Our coach has been effective in facilitating our exercises during the training sessions.			.88
Cannot answer	32 (34.0)	30 (28.0)	
Strongly disagree	1 (1.1)	1 (0.9)	
Disagree	5 (5.3)	6 (5.6)	
Agree	38 (40.4)	44 (41.1)	
Strongly agree	18 (19.1)	26 (24.3)	

(continued)

Table 2. (continued)

Coaching actions	End of year 1 94/99 (95%)	End of study 107/113 (95%)	*P* value
Our coach has been able to help us when we got stuck.			.4
Cannot answer	35 (37.2)	33 (30.8)	
Strongly disagree	3 (3.2)	1 (0.9)	
Disagree	5 (5.3)	6 (5.6)	
Agree	36 (38.3)	54 (50.5)	
Strongly agree	15 (16.0)	13 (12.1)	
Our coach has been effective in clarifying tasks.			.71
Cannot answer	31 (33.0)	32 (29.9)	
Strongly disagree	0	2 (1.9)	
Disagree	8 (8.5)	9 (8.4)	
Agree	44 (46.8)	49 (45.8)	
Strongly agree	11 (11.7)	15 (14.0)	
Our coach kept us on track with an eye toward the goals and completion of tasks.			.96
Cannot answer	27 (28.7)	30 (28.0)	
Strongly disagree	3 (3.2)	2 (1.9)	
Disagree	9 (9.6)	12 (11.2)	
Agree	45 (47.9)	53 (49.5)	
Strongly agree	10 (10.6)	10 (9.3)	
Our coach has been effective in encouraging the development of self-learning and self-leading capacities of our team.			.23
Cannot answer	24 (25.5)	38 (35.5)	
Strongly disagree	3 (3.2)	1 (0.9)	
Disagree	10 (10.6)	7 (6.5)	
Agree	39 (41.5)	48 (44.9)	
Strongly agree	18 (19.1)	13 (12.1)	
Our coach provided support and guidance to help us become an effective team.			.35
Cannot answer	24 (25.5)	33 (30.8)	
Strongly disagree	3 (3.2)	1 (0.9)	
Disagree	6 (6.4)	7 (6.5)	
Agree	50 (53.2)	46 (43.0)	
Strongly agree	11 (11.7)	20 (18.7)	
Exploring context			
Our coach has been effective in learning about and responding to local issues that are particularly significant at our site.			.42
Cannot answer	22 (23.4)	28 (26.2)	
Strongly disagree	2 (2.1)	2 (1.9)	
Disagree	5 (5.3)	8 (7.5)	
Agree	59 (62.8)	55 (51.4)	
Strongly agree	6 (6.4)	14 (13.1)	
Offering technical support			
Our coach provided needed materials and advice.			.25
Cannot answer	31 (33.0)	30 (28.3)	
Strongly disagree	1 (1.1)	1 (0.9)	
Disagree	8 (8.5)	4 (3.8)	
Agree	35 (37.2)	55 (51.9)	
Strongly agree	19 (20.2)	16 (15.1)	

Table 3. Perceptions of Coaching Needs Early in PACER Implementation.

Emergent theme	Description	Exemplar
Accountability	Refers to getting help staying on track and identifying strategic plans and achieving realistic goals	Coach will "Provide a layer of accountability for the team." (Coach #3; Site #1)
Resources	Refers to getting help identifying existing resources or negotiating to gain additional resources, especially with evaluation	Coach will help with "negotiating with hospital systems for change resources." (Coach #3; Site #1)
Change facilitation	Refers to identifying actionable items, such as curriculum change, workflows, overcoming disappointment or managing complex issues that occur when multiple professions are involved, that will bring the 3 disciplines together to implement and sustain change.	Coach will help "the 3 disciplines (IM, FM and Peds) really collaborate rather than just inviting each other to scheduled events." (Coach #6; Site #5;)
Faculty development	Refers to helping develop skills related to teaching, group precepting, cross discipline communication	Coach will help "train preceptors how to teach across multiple learner types." (Coach #6; Site #5;)

Change facilitation, and (4) Faculty development. Each of these emergent themes are described in Table 3 and exemplars that were identified in the composite field notes are included to further reflect the relevant themes. Table 4 illustrates the emergent themes on the benefits and challenges of team coaching from telephone interviews at the end of the PACER Project and the open-ended comments from the 2017 and 2018 surveys. Four emergent themes fit into the benefits category and include Feedback, Support, Conflict Management and Staying on Task. Emergent themes that fit into the Challenges category included Time-related issues, Engagement or use issues, which are also described with supporting exemplars.

Finally, Table 5 describes aspects of the coaching program that could be improved using the same data sources. These include Accessibility, Earlier Engagement of Coaches, Aligning Coaches' Expertise with Team Needs, Proactivity, More Time with Coaches, and the Importance of the Longitudinal Coaching Relationship.

Discussion

This study is the first to our knowledge to assess the coaching experiences of interprofessional teams working together to *simultaneously* redesign both education and clinical practice in primary care. We learned from our quantitative findings that the most frequently cited coaching actions included developing a positive working relationship with their team, and offering valuable encouragement that helped them overcome important and frequent challenges. These are similar to other reports of team coaching in healthcare and support the notion that building trusting relationships is important in one-one coaching as well as team coaching.[11] Coaches were effective in learning about and responding to local context issues, a finding reported by approximately two-thirds of participants. Clinical and educational transformation efforts are more successful when they are matched to local conditions and context, and teams reported benefiting from coaching related to this.[16,17] We found no differences in how coaches interacted with participants from end of Year 1 to the end of the study indicating that coaching actions were consistent throughout the duration of their work together.

PACER coaches helped these interprofessional teams find common ground, and given that groups from different professions and disciplines were working together on clinic and educational change, they often needed guidance in crossing these cultural divides. Though they may have been able to do this without a coach, coaching was valuable for facilitating change. It may also be that the dose of coaching or specific coaching features has an impact on the process.[18]

The qualitative findings indicated that participants anticipated needing help with accountability, identifying resources, change facilitation and faculty development. PACER participants had chosen their own specific educational and clinical redesign interventions to implement, and it is not surprising that these are the areas they were hoping for help with from their coaches. Residency education is notoriously under-resourced, so it is not surprising that they wanted assistance with negotiating for or identifying additional resources.[19,20] Similarly, help with accountability is also not surprising as the teams were complex, varied geographically, and were made up of different disciplines and professions. Lastly, wanting help with both change facilitation and faculty development also makes sense as coming together to plan on clinical and educational redesign may require new skills for many and the coaches had extensive expertise in these areas.

Qualitative findings also revealed the benefits of coaching included feedback, support, help with conflict management, and staying on task. These findings are consistent with those found in the study by Korner et al,[12] which revealed that team coaching improved team meetings and

Table 4. Emergent Themes on the Benefits and Challenges of Team Coaching.

Emergent beneficial themes	Definition	Exemplar
Feedback	Refers to the provision of insights and guidance according to the specific needs of the team.	"Coach helped validate our perceptions of what we are doing well and where we could make improvements . . ." (Coach #7; Site #2) "Our coach recognized the weaknesses in our plans and help us redefine our approach to administration." (Coach #2; Site #6)
Support	Refers to the encouragement and assistance provided during the change process.	"Coach was very generous with articles and tools and sharing experiences" (Coach #9; Site #6) "Listening to our coach's ideas was very encouraging." (Coach #7; Site #2)
Conflict management	Refers to the ability to identify and handle tensions sensibly, fairly, and efficiently.	"Our team leader had challenges with leading this effort and our coach noted and assisted a great deal with this." (Coach #3; Site #1) "Coach sharing their own successes and failures with conflicts has been most helpful." (Coach #5; Site #3)
Staying on task	Refers to adding direction to their work or helping them stay focused on their efforts.	"Our coach knew what questions to ask toward helping to focus our efforts." (Coach #4; Site #9). "Our coach helped us keep track of our goals (Coach #2; Site #6).
Emergent challenging themes	**Definition**	**Exemplar**
Time-related issues	Refers to the challenges of getting help from the coach when it is needed. Synching the interactions so it works for everyone is challenging.	"Coach has been great at face-to-face meetings and the site visit but has not been able to join on conferences calls very often." (Coach #2; Site #3) "More face-to-face time would have helped." (Coach #6; Site #1)
Engagement/use issues	Refers to the issues related to interaction that include connecting with the coach when needed and using them for meaningful matters.	"Out of sight, out of mind has been our problem. We also are not sure what to ask for help with." (Coach #2; Site #3) "We had much more experience than our coach did. . . A more experienced coach with a background closer to ours would have helped." (Coach #6; Site #1)

information exchange by improving willingness to accept responsibility derived from real-time feedback sessions. We similarly learned that feedback was important to the teams, which other studies have shown fosters reflective abilities.[5,6,21] Support provided by coaches was also mentioned as an emergent theme, which referred to encouragement and assistance provided by coaches during the change process. Similarly, conflict management emerged as a theme, which referred to the ability to identify and handle tensions that can be expected to arise during change processes. Lastly, staying on task emerged as a theme, as the coaches added direction or helped teams stay focused on their efforts.

Important challenges regarding coaching were also identified in both our quantitative and qualitative findings. Between 13.8% and 46.8% of team members responses were "Could not answer," suggesting that not all team members were equally engaged or exposed to the coaches. While unfortunate, this is not surprising, given that most but not all team members could attend the in-person training and site visits, and even fewer could likely take part in conference calls, given challenges with scheduling among very busy team members. Each team had a designated team leader, and it is possible that some coaching occurred with this individual rather than the full team. We also found that accessibility was a challenge where the teams could gather but the coach was unavailable. Overcoming this challenge would likely be difficult using the model of coaching we tested in our study, as all coaches were full time faculty or employees and had their own day job to attend to.

Table 5. Factors that Could Improve Coaching.

Theme	Description
Accessibility	Coaches need to be available to the teams when they are needed to help solve problems in real time. More site visits by the coaches were also recommended.
Earlier engagement of coaches	Having coaches available before the first in person meeting could help teams hit the ground running, especially with resources that can help them launch.
Aligning expertise with needs	Ensure the coach's expertise aligns with changes the sites are making to be sure the team gets the help it needs. Having a coach who can share meaningful insights and experiences is invaluable.
Proactivity	If coaches were more proactive in checking in, more engagement may have occurred.
More time with coaches	More coaching time would have helped teams overcome especially challenging hurdles.
Longitudinal coaching relationship	Sites that had to switch coaches expressed losing momentum and feeling stranded, so ensuring coaches commitment is very important.

Another emergent theme that represented a challenge was understanding how to use a coach or be coached. One meaningful exemplar related to this theme was, "Out of sight, out of mind has been our problem. We also are not sure what to ask for help with." We did not explicitly work with the teams to help them understand how to be coached, and though we held routine calls with the coaches, not all could attend. Thus, it is likely that coaching styles varied. This is important as another qualitative finding was to be sure to align the skills of the coach with the needs of the program, an important insight that we thought we had done, but learned that not all matches were well aligned. In hindsight, we tended to match coaches with sites based on geographic location and should have conducted a more in depth needs assessment to ensure better alignment. Also, while we had coach facilitation sessions, we could have done more to share coaching challenges and undertake group problem solving to address challenges experienced by sites. Lastly, participants wanted to develop their relationship with their coaches earlier than we expected. They met them at the first in person meeting but indicated they wished the coaches were available before this meeting to help them hit the ground running.

The strengths of this study include diversity in geographic region, disciplines and professions included on the teams as well as our high response rates (95%). Limitations include that a significant number of team members could not rate their coaches, which reduces the generalizability of these findings; however, turnover is common in busy primary care settings. In addition, the dose and timing of coaching was different across the 9 sites. The study design was quasi-experimental, which is a limitation; however, it is very challenging to implement rigorous study designs into busy educational settings. One site was without a coach for 8 months, which we did not learn of and therefore did not know to add another coach in a more-timely manner. Lastly, we only assessed the coaching relationship and the coaching process and did not include assessments of outcomes in terms of educational innovation or clinical redesign and how these may have been associated with the coaching received. Separating these from other interventional elements would have required a more rigorous study design than we were able to apply with the funding received.

In conclusion, team coaching offered important support to interprofessional teams of primary care professionals undertaking simultaneous educational and clinical redesign. Coaches built helping relationships, provided encouragement, and assisted with tailoring innovations to the local context. Challenges exist with accessibility and coaching alignment with the needs of the team. Using a team coaching model should be considered when embarking on interprofessional transformation teamwork.

Declaration of Conflicting Interests

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