Commentary:
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Key Principles Underlying a Research-Practice Alignment in a Federally Qualified Health Center

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Context: Minoritized populations such as racial and ethnic minorities and individuals of less privileged socioeconomic status experience a disproportionate burden of poor hypertension (HTN) control in the United States. Multilevel systems interventions have been shown to improve patient-level outcomes in minoritized populations; however, there remains a large translational gap in implementing these approaches into federally qualified health centers (FQHC), which serve those at highest risk of HTN-related morbidity and mortality. The paucity of purposeful collaborations between academic researchers and practice staff throughout the research process remains a significant roadblock to the timely translation of evidence to practice.

Design: This commentary describes the key principles and best practices that underlie the development and sustainment of an equitable research-practice alignment, which is supporting the implementation of multilevel systems intervention for improved HTN care in a large FQHC in Brooklyn, New York. The key principles, which are derived from the central tenants of relationship development and maintenance in community-engaged participatory research, patient-centered outcomes research, and organizational alignment theory include (1) cocreation of a shared mental model, (2) bridging multilevel communication, (3) ensuring mutual accountability, and (4) creating a culture of continuous improvement.

Conclusions: Together, the principles guide how the research and practice teams work together to achieve a shared goal of improving the health and well-being of minoritized patients through the provision of high quality, community-oriented HTN care. Best practices to sustain our alignment require an ongoing and deliberate investment in honest and transparent communication by all members. *Ethn Dis.* 2023;DECIPHeR:6–11; doi:10.18865/ed.DECIPHeR.6

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Introduction

Uncontrolled hypertension (HTN) is one of the most prevalent primary care diagnoses and the single most important factor driving the high rates of cardiovascular-related mortality and health care expenditures in the United States.[1] Although recent national data show increasing trends in the awareness and treatment of HTN among all populations, disparities in blood pressure (BP) control persist. For example, rates of BP control are significantly lower among black and Latinx adults (48.5% and 47.4%, respectively) and among individuals with low household socioeconomic status (SES) (44.8%) as compared to their non-Hispanic white (55.7%) and high-SES (57.3%) counterparts.[2]

Growing evidence shows that multilevel systems-based interventions (i.e., those in which the patient, healthcare providers and staff, and clinic systems are all recognized) that are designed to bolster the delivery of evidence-based care guidelines can produce significant improvements in minoritized patients' health behaviors (e.g., medication adherence, adoption of healthy diet, physical activity) and clinical outcomes (e.g., BP control).[3] Despite their efficacy, systems-level interventions often take up to 17 years to be translated into clinical practice.[4] One of the most common roadblocks to the timely translation of evidence to practice is the paucity of purposeful collaborations between academic researchers and practice staff throughout the implementation process to support the integration of the interventions into routine care processes.[5] As a result, practices experience significant disruptions in their workflow when the interventions are implemented and often cannot sustain the changes once external staff (e.g., practice facilitators) are no longer supporting them.[6]

To address this large "translational gap," this commentary describes the development of a research-practice alignment that is supporting the implementation of a technology-facilitated team-based approach for HTN care (herein called Advancing Long-term Improvements in Hypertension Outcomes through a Team-based care Approach [ALTA]) in a large federally qualified health center (FQHC). We purposefully chose the term "alignment," as it conceptualizes the relationship as mutually rewarding in which group members have a shared sense of purpose and vested

ownership in the mission, vision, and value of the work.[7,8] When groups are aligned to a common purpose and shared goals, there is less ambiguity, more transparency, better communication, great productivity, and improved results.[9]

Project ALTA Overview

We are currently implementing a stepped-wedge cluster randomized controlled trial designed to evaluate the effect of a tailored practice facilitation (PF) strategy on the implementation fidelity of ALTA in 700 patients with uncontrolled HTN receiving care at FQHC practice sites in Brooklyn, New York.[10] In ALTA, front desk staff, medical assistants, nurses, and primary care providers work collaboratively to identify patients with uncontrolled HTN who are nonadherent to their medications by using electronic health record (EHR)-embedded tools; ordering remote BP monitoring for continuous care; providing patient training for in-home BP monitoring and use of the patient portal; and delivering virtual health coaching for medication adherence and lifestyle modifications via a high-risk clinic. Patients also receive assistance from community health workers to address social needs and technology-related barriers. The trial is being conducted in 2 phases, as follows: a preimplementation phase in which qualitative interviews, workflow analyses, and survey data are used to refine the PF strategy, based on the Consolidated Framework for Implementation Research[11] to facilitate the implementation of the intervention; and (2) an implementation phase, guided by Proctor's Implementation Outcomes Framework.[12]

Development of a Research-Practice Alignment

Our focus on a research-practice alignment is grounded in the growing recognition that implementation science and improvement practice (i.e., practice-driven efforts that support redesign of work processes and systems to improve patient outcomes) are united in their pursuit of embedding evidence into practice.[13] The inherently complex, iterative, and multifaceted nature of systems change requires close collaboration between research and practice teams to generate solutions to implementation barriers.[14] The development of a research-practice alignment, in theory, should generate contextually grounded implementation strategies that increase the likelihood that evidence-based interventions such as ALTA will be adopted and sustained. This alignment also harmonizes the competing priorities of service delivery (by the FQHC) and evaluation of successful implementation (by an academic health system). Although previous papers have described stakeholder engagement when implementing evidence-based interventions into practice, these relationships are typically characterized as "symbolic participation" whereby practice partners are often involved in the implementation process but do not have equal decision-making powers to drive changes.[15] We sought to overcome the challenges associated with these transactional relationships by engaging in a deliberative approach to develop and sustain a research-practice alignment that would guide the implementation and evaluation of ALTA.

Our research-practice alignment is built upon 4 principles that are drawn from the central tenants of relationship development and maintenance in community-engaged participatory research (CBPR), patient-centered outcomes research (PCOR), and organizational alignment theory.[8,16–18] The key principles shape how the research and practice teams work together to achieve a unified goal and vision while maintaining openness, transparency, and shared accountability for the work. Table 1 describes our key principles and the supporting exemplars from the CBPR, PCOR, and organizational management literature. Below, we describe each of the key principles that underlie our research-practice alignment and the emerging best practices that help sustain it.

Key Principle 1: Cocreate a Shared Mental Model

At the outset of the ALTA project, it was clear that achieving the central goal of creating a sustainable infrastructure for HTN management in community health centers would be impossible without close collaboration between the research and practice teams. Thus, a critical first step in developing the alignment was the cocreation of a shared mental model outlining how the group would work together to implement ALTA.[19] Of particular importance was an understanding and alignment with the priorities of the FQHC to improve HTN control as measured by the Universal Data Set. Within the first month, we formed an Implementation Committee (IC), comprised of leadership at the community health center including the chief medical officer, senior director of quality and patient care services, senior medical director of quality and safety, and senior practice mangers along with members of the research team (Table 2). A primary task of the IC was to co-construct a shared understanding of the project tasks, roles and responsibilities, team interactions and information exchange, and temporal requirements (e.g., deadlines, pacing).[20] Fundamental to a research-practice alignment, the IC established mutual goals and purpose for the project, with an explicit focus on how ALTA could improve existing workflows and complement proposed improvement plans at the FQHC (Figure 1). In addition, the group outlined processes for shared ownership of meetings and tasks, established guidelines for transparent and equitable decision-making, and re-evaluated the feasibility of timelines necessary for successful

Table 1. Description of the key principles of the research practice-alignment

Principles of a research-practice alignment	Description	Supporting exemplar principles from CBPR, PCOR, and OA theory
Cocreate a shared mental model	• Build and maintain relationships based on mutual trust and respect • Ensure roles are defined, specific, and sufficiently supported • Identify and complement pre-existing strengths, resources, and programs • Develop shared goals and vision for the project • Develop transparent processes for equitable decision-making	CBPR: Facilitates collaborative, equitable involvement of all partners in all phases of the research PCOR: (1) Roles and decision-making authority of all stakeholders are collaboratively defined and clearly stated; major decisions are made inclusively, and information is shared readily with all partners. (2) All stakeholders are committed to open and honest communication. OA: Collaboration provides both structure and opportunity for developing a shared cognitive space around which collective action can be organized
Bridge multilevel communication	• Supportively link communications between practice leadership, staff, and patients • Ensure involvement at every level (from leadership to on-the-ground community health workers) • Elevate underrepresented voices (including those of patients, nursing staff, and clinical front desk staff)	CBPR: Promotes a colearning and empowering process that attends to social inequalities PCOR: (1) Help stakeholders understand the research process; researchers learn about and incorporate patient-centeredness and stakeholder engagement into the research process. (2) When including priority populations, the research team is committed to diversity across all activities OA: Create a flexible architecture and clear processes for ways of working across the partnership(s), which allow interaction and productive conversations
Ensure mutual accountability	• Address mutual implementation priorities • Clearly outline commitments offered by all partners to achieve shared goals • Conduct an honest and actionable assessment of the commitments made by each partner and results achieved	CBPR: Integrates knowledge and action for mutual benefit of all partners; involves a long-term commitment by all partners. PCOR: Time and contributions of partners are valued and demonstrated in reasonable and thoughtful requests for time commitment OA: Promotes transparency and accountability through shared responsibility for the outcome
Create a culture of continuous improvement	• Regularly reassess patient, implementer, researcher, and leadership needs, as well as barriers to implementation • Center progress around patient and practitioner experiences • Ensure discussions regarding solutions are ongoing, iterative, and rapid	CBPR: Involves a cyclical and iterative process PCOR: Recognition that real-world needs and iterative processes are inherent in patient-centered research OA: (1) Assume the contexts for collaboration(s) and implementation will change over time, and that there is structural and financial agility to accommodate this; (2) The best practices are the ones you already have

CBPR, Community-based participatory research; PCOR, Patient-centered outcome research; OA, organizational alignment

implementation. Examples of key decisions that emerged from these meetings included receiving National Institutes of Health approval to change the study design from a cluster randomized trial to a stepped wedge design so that all practices could benefit from the PF support, broadening the study population to be more inclusive of all patients with HTN who would benefit from ALTA, and pairing the project with complementary HTN initiatives at the practices to ensure the program feels like an integrated whole.

Key Principle 2: Bridge Multilevel Communication

As a systems-level project, ALTA engages all members of the practice in the implementation process. In our research-practice alignment, we use a "bottom-up approach" that explicitly elicits feedback from the "on-the-ground" managers, practitioners, and staff on the barriers to integrating the intervention into their workflows and creating solutions to address these challenges. Doing so increases practices' receptivity to changes, encourages peer-to-peer collaboration, and enhances collective efficacy to actively participate in the implementation of the project.[21] For example, to address challenges with the bottlenecks in the workflow created by patients' technology-related challenges, a nurse at one of the practices proposed creating a technology checklist (e.g., having a smartphone, having space on the phone to download apps) to proactively address this problem. The checklist was adopted by the practice leadership and shared across practices during team huddles and a learning lunch for providers.

Table 2. Practice and research members of the ALTA Implementation Committee

Role	Title
Practice Leadership	Assistant Director, Care Transitions
	Chief Medical Office
	Manager Information Management
	Medical Directors
	Nurse Managers
	Nurse Supervisor
	Quality Improvement Manager
	Senior Director, Quality and Patient Care Services
	Senior Medical Director, Quality and Safety
	Registration Supervisors
Practice Staff	Site Directors
	Registered Nurses
	Nurse Practitioner
	Primary Care Providers
	Medical Assistants
	Front Desk Staff
	Community Health Worker
Research Team	Principal Investigator
	Research Scientist
	Practice Facilitator Supervisor
	Practice Facilitators

In addition, we conduct semistructured interviews with patients who both decline participation in ALTA as well as those who complete the program to gain insight into the barriers and facilitators to participation. Key findings from these interviews highlight the importance of emphasizing the added benefit of remote BP monitoring and nurse support and addressing digital literacy as well as patients' general concerns about healthcare technology (e.g., privacy and security, cost).

Key Principle 3: Ensure Mutual Accountability

In our research-practice alignment, mutual accountability places a priority on team functioning and performance over individual success. A willingness to engage in open communication, receive real-time constructive feedback, and take collective responsibility for the outcome of a task (either positive or negative) are defining features that enable individual team members to develop mutual accountability for a shared goal.[22] An essential component of the PF strategy supporting the implementation of ALTA is the collaboration between the research-supported practice facilitator and the practice quality improvement (QI) teams who are embedded in the practices. The focus of the PF+QI team is to provide community health centers with a standardized strategy for integrating the intervention into the existing care processes to enable the delivery of high-quality HTN care. To be successful, the PF+QI team worked together to create a structure for sharing responsibility for the project implementation that could meet the needs of both the research and practice operations. This included outlining their individual contributions to the project in addition to their shared responsibilities, developing mechanisms to track their progress toward the shared goals, and constructively resolving issues that could prevent follow through on commitments. The PF+QI team meets weekly to review their progress, discuss barriers to reach the practice goals, and codevelop strategies and tools to support practices in implementation (e.g., creation of job aides). For example, the PF+QI team shares the responsibility of tracking metrics at each practice to monitor how well ALTA is being implemented. This includes regularly reviewing the EHR for missed opportunities, creating recommended action plans to address challenges, and communicating this information to the practice champion team (e.g., nurse managers, medical director and registration supervisor). The PF+QI team also participates in the practices' morning huddles and staff meetings to assist in the development of enrollment goals for ALTA.

Key Principle 4: Create a Culture of Continuous Improvement

A core feature of implementation science and improvement practice is the iterative refinement of an intervention to meet the evolving needs of the practice setting.[13] ALTA leverages best practices in QI and design-thinking approaches (e.g., incorporating the values, needs, and "workflows" of patients and providers into the design or redesign of tools or services) in combination with real-time system improvement analyses to identify barriers and make adjustments that can be rapidly translated to practice.[23] As an alignment, the decision to adapt the intervention is shared between the research and practice teams. The IC meets biweekly to evaluate the project's progress; to review barriers and facilitators to implementation using data from the EHR, practice observations, and staff interviews; and to discuss strategies that can be implemented with little disruption to the practices. In addition, the PF+QI team conducts root cause analyses and Plan, Do, Study, Act cycles in collaboration with practice leadership and staff to test,

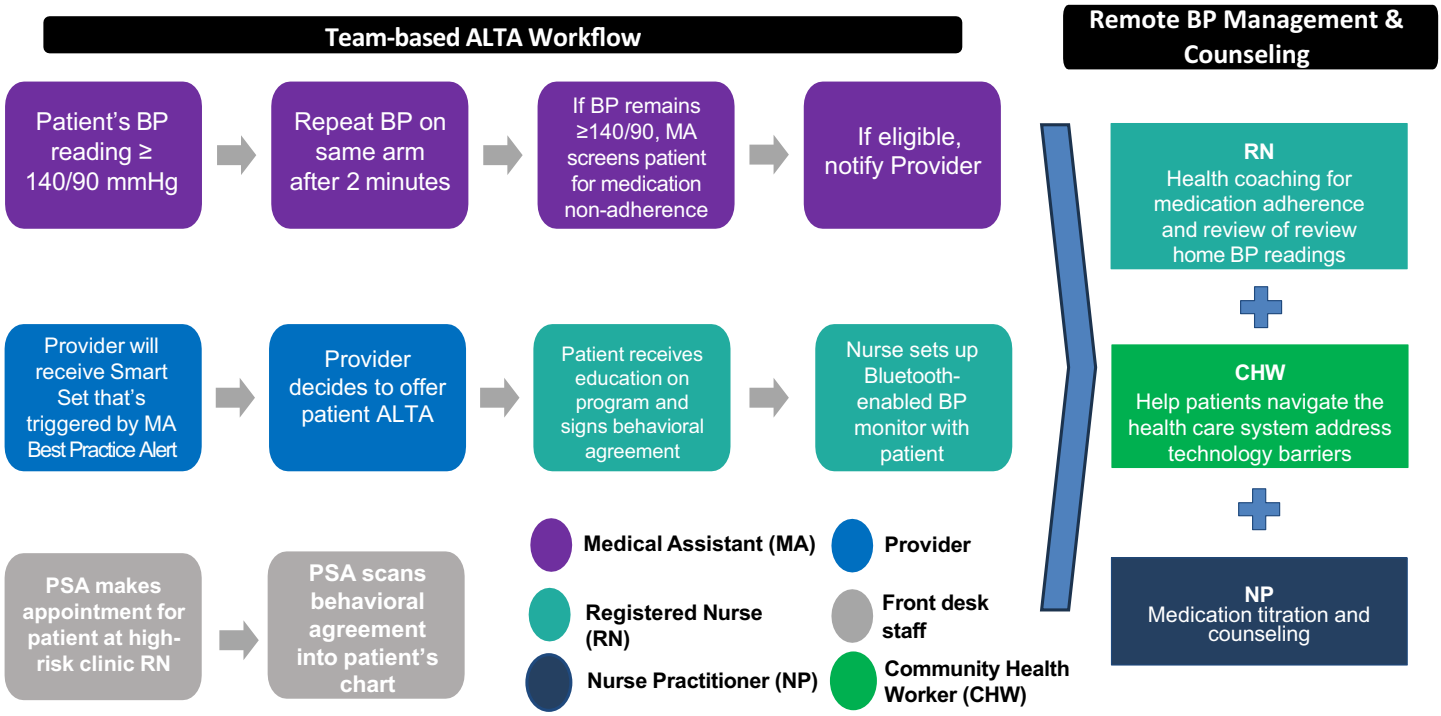

Figure 1. Team-Based ALTA workflow

revise, and implement solutions. For example, in the initial launch of ALTA, patients were screened for nonadherence using a 5-item EHR-embedded tool. After the tool was implemented, it became clear from a root cause analysis that many questions were redundant and were adding time to the medical assistant workflow. In response to feedback from the practices, the IC reduced the number of items to 2 questions, while still maintaining the overall face validity of the tool (i.e., capture nonadherence due to missed doses and failure to pick up pharmacy refills).

Emerging Best Practices That Sustain Our Research-Practice Alignment

The maintenance of the research-practice alignment is an iterative process that is continuously re-examined as members of the IC, practice, and research staff change, and we gain more on-the-ground experience with implementation. To sustain the alignment, the group remains focused on the "why" of the project, which is reinforced through an organizational culture that mirrors the vision, values, and behaviors that underlie the work.[24] Open and honest communication is fundamental to ensuring our shared mental model is maintained even when these adaptations occur. In addition to biweekly meetings, the teams regularly communicate about the evolving needs of the project via informal means (e.g., email, direct messaging). Frequently "checking-in" with one another helps to support mutual accountability for the project and ensures equitable decision-making. In addition, the IC has developed processes that allow for ongoing constructive feedback if it feels that the balance of power tips too far in one direction. This includes ensuring all members of the research and practice teams feel comfortable sharing their concerns about the direction of the project and focusing on identifying solutions rather than placing blame when challenges do arise. Finally, the alignment is sustained through a commitment to transparency in the creation of all dissemination materials including the data sharing and analyses as well as coauthorship of presentations, publications, and peer-to-peer guidance documents.[25] Doing so ensures that the accuracy and integrity of the work is upheld.

Conclusion

Closing the evidence-to-implementation gap requires a purposeful process of building and sustaining trusted collaborations between practice leadership and staff and academic researchers. Through our implementation trial, we are developing best practices for a research-practice alignment that will

help to bridge this gap. Our alignment is built upon four key principles, as follows: (1) cocreation of a shared mental model, (2) bridging multilevel communication, (3) ensuring mutual accountability, and (4) creating a culture of continuous improvement. Together, the principles guide how the teams work together to achieve a shared goal of improving the health and well-being of minoritized patients through the provision of high-quality, community-oriented care. Sustaining this alignment requires deliberative investment in ongoing, honest, and transparent communication by all members.

Our research-practice alignment can serve as a guiding framework for how implementation scientists and improvement practice teams can align their efforts to drive forward systems change. We contend that there is a lot of work remaining in the development and maintenance of this alignment. However, continuing to operate in parallel rather than in alignment will only prohibit the achievement of the mutual goals of effectively embedding and sustaining evidence-based interventions into health systems for improved population health outcomes.

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