Project Title: Research Centers in Primary Care Practice Based Research and Learning

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Organization: Medical University of South Carolina (MUSC)

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Federal Project Officer: Theodore Ganiats, MD

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Structured Abstract:
Purpose: To strengthen the research and dissemination infrastructure of PPRNet, a mature national primary care practice-based research network.
Scope: Expand the PPRNet research team to respond to appropriate funding announcements (FOA). Advance PPRNet infrastructure and activities to better disseminate research findings into practice.
Methods: Multiple approaches to introduce PPRNet to MUSC research faculty. Targeted responses to appropriate FOA. Technologic advances to expand PPRNet members to those using any Certified EHR. Ongoing maintenance and enhancements of clinical quality measure (CQM) reports. In person and web-based meetings; internet and social media tools.
Results: Despite limited success in recruiting new research colleagues, PPRNet faculty received $6.19 million in AHRQ and NIH funding; with 7 of 11 grant applications submitted funded. Membership eligibility was expanded from practices using one electronic health record (EHR) to users of at least 8 different EHRs. PPRNet CQM reports were enhanced and now support research, quality improvement, and value-based payment programs. A broad slate of educational activities was conducted and internet tools enhanced to facilitate member activities.
-Key Words: practice-based research networks, electronic health records, clinical quality measures, quality improvement research

Purpose:

The purpose of the activities conducted during the project were to strengthen the research and dissemination infrastructure of PPRNet, facilitating its ability to compete for research funding from AHRQ and other funders. Consistent with the scope of the Center Core grant (P30) mechanism, project activities also allowed the PPRNet Center to be better able to conduct primary care practice-based research and support quality improvement in member practices. Our original intent was to respond to AHRQ "rapid-cycle" funding announcements limited to funded centers; however, AHRQ's decision not to issue these FOAs eliminated this opportunity.

Scope:

The project activities were conducted in PPRNet, a national practice-based research network founded in 1995, the first PBRN to limit membership to primary care practices using electronic health records (EHR). Practices throughout the United States joined PPRNet in support of its mission: "A practice-based learning and research organization designed to improve health care in its member practices and elsewhere in the United States." PPRNet pursued its mission through three sets of activities:

- Turning EHR clinical data into actionable information by providing member practices with clinical performance reports. These reports are used internally by practices for their own quality improvement (QI) efforts and for local pay for performance (P4P) incentive programs.
- Conducting research largely centered on empirically testing theoretically sound practice-based quality improvement interventions.
- Disseminating successful quality improvement interventions and conduct other activities as a learning network.

At the time of its application to be a part of the P30 initiative, PPRNet was already a large PBRN with 226 active member practices in 43 States. PPRNet held annual member meetings, had an active web and social media presence, and had already received 11 major federal research grants (8 from AHRQ, 2 from NIAAA, and one from NCI).

To further its development as a successful research network, PPRNet had two major aims for its P30 Center activities:

1) Expand our team of investigators across the MUSC campus to improve our readiness to respond to a broad scope of funding announcements.

2) Further enhance our infrastructure and activities related to disseminating and implementing our research findings in our member practices.

Methods:

Aim 1: Expand our team of investigators across the MUSC campus to improve our readiness to respond to a broad scope of funding announcements.

Through personal contacts, seminars, and participation in our annual continuing education meeting, several potential faculty members across the MUSC campus were introduced to PPRNet and opportunities for collaboration. Chanita Hughes-Halbert, PhD, one of the initial co-investigators on this project, successfully integrated her research team with PPRNet to successfully receive funding for an application to AHRQ, and Madison Hyer was added as a biostatistical collaborator. For the most part, however, efforts to expand the PPRNet team of investigators had limited success. MUSC clinicians were largely occupied by clinical work and showed little interest in our outreach. No primary care researchers were recruited to join the MUSC faculty during the project. Most other researchers at MUSC had lines of inquiry that were not compatible to PBRN work. Given this recognition we elected to focus our efforts on responses to funding announcements by the core PPRNet faculty.

To do so, we followed the approach planned in our application. PPRNet faculty regularly scanned funding announcements (FOA) issued by AHRQ and several NIH institutes. Once identified, the FOA was disseminated to all PPRNet investigators, and a consensus was reached within a few hours about whether it is appropriate for us, based on our research expertise, workload, availability of investigators and other factors. When we deemed the FOA appropriate or were uncertain, we sent an email message to our Advisory Board and/or broader listserv, briefly describing the opportunity and soliciting input. Within a few days, sufficient feedback generally was received to clearly indicate whether we should respond to the FOA. Our bias has always been not to respond unless we think that PPRNet will be competitive for the opportunity and there is widespread enthusiasm from our membership. If we decided to proceed, a principal investigator was chosen by the PPRNet research team and the application was prepared, almost always with input from most PPRNet investigators and member practices.

Aim 2: Further enhance our infrastructure and activities related to disseminating and implementing our research findings in our member practices.

This Aim was pursued through four sets of activities: expanding access to PPRNet to all primary care clinicians using certified EHR systems, ongoing revision of our clinical quality measure reports to maintain their concordance with evidence-based clinical guidelines and utility for quality payment programs, a series of continuing education activities, and maintenance of our web and social media presence.

Expanding access to PPRNet to all primary care clinicians using certified EHR systems:

In the second year of the project, we decided to expand eligibility to PPRNet to all primary care practices that use any Meaningful Use Stage 2 Certified EHR. The decision because of a declining number of practices that used Practice Partner™, and the corresponding increases practices using other EHRs. This effort was undertaken in collaboration with MUSC's Office of the Chief Information Officer. It was accomplished by developing technology to load, rip, and parse EHR batch exports of Summary of Care documents using cCDA standards. Using slightly different technology we developed the ability to do reporting from the EpicCare Ambulatory EHR.

Ongoing revision of our CQM reports to maintain their concordance with evidence-based clinical guidelines and utility for quality payment programs:

Throughout the course of the project, we have enhanced our clinical performance reports on an ongoing basis to stay current with preventive services and clinical practice guidelines and meet member needs. PPRNet faculty kept abreast of recommendations from the US Preventive Services Task Force, Center for Disease Control, and other federal agencies and we updated our clinical quality measure reports accordingly. We also modified our reports based on regular input from PPRNet members and more recently on federal value-based payment programs.

Continuing Education Activities:

PPRNet continuing education activities were planned by network faculty in response to member requests, ongoing grant projects, and changes in clinical guidelines. In person meetings, webinars, and presentations at national meetings are the major approaches employed.

Web and Social Media:

PPRNet staff were responsible for updating our web page and social media presence though all team members include content.

Results:

Aim 1: Expand our team of investigators across the MUSC campus to improve our readiness to respond to a broad scope of funding announcements.

The PPRNet team submitted 11 grant applications during the project. Seven were funded; four were not. The collaborations formed under this aim yielded $6.19 million in grant funds, a more than ten-fold return on the investment of funds from the P30 mechanism.

The seven funded grants are listed here:

Title: Learning from Primary Care Meaningful Use Exemplars
PI: Steven Ornstein, MD, Professor of Family Medicine
Funding: AHRQ 1R18HS022701 (09/2013 - 05/2014)
Total: $487,155

Title: Enhancing Quality and Access to Lifestyle Counseling and Health Behavior Change
PI: Chanita Hughes-Halbert, PhD, Professor, Department of Psychiatry and Behavioral Sciences
Funding: AHRQ 1U18HS023047 (3/2014 to 2/2017)
Total: $1,368,778

Title: Reducing ADEs from Anticoagulants, Diabetes Agents and Opioids in Primary Care
PI: Andrea Wessell, PharmD, Associate Professor of Family Medicine
Funding: 1R18HS023454 (9/30/2014 to 9/29/2017)
Total: $1,403,090

Title: Reducing Overuse in Primary Care through Safe and Effective Health Information Technology
PI: Cara Litvin, MD, Assistant Professor of Medicine
Funding: AHRQ: 1R01HS024371 (9/30/2015 –9/29/2018)
Total: $1,457,203

Title: A Virtual Learning Collaborative for Alcohol Screening, Brief Intervention and Treatment in Primary Care
PI: Lynne Nemeth, PhD, Professor of Nursing
NIAAA: 1 R25 AA024430 (6/1/2016-5/31/2018)
Budget: $530,038

Title: Translating CKD Research into Primary Care Practice
PIs: Cara Litvin, MD, Assistant Professor of Medicine; Steven Ornstein, MD, Professor of Family Medicine
NIDDK: 1 R18 DK110962 (09/01/2016 – 06/30/2018)
Budget: $672,306

Title: Learning from Primary Care EHR Exemplars about HIT Safety
PI: Steven Ornstein, MD, Professor of Family Medicine
AHRQ: 1R21HS024327 (9/01/2016 – 2/28/2018)
Budget: $278,812

Aim 2: Further enhance our infrastructure and activities related to disseminating and implementing our research findings in our member practices.

Expanding access to PPRNet to all primary care clinicians using certified EHR systems:

At the beginning of the project, all PPRNet members used Practice Partner™ EHR. Through our developments, PPRNet also now has member practices using ambulatory EHRs from Allscripts™, MDsuite®, Greenway Health, E-MDs, Aprima, Cerner, and Athena, and Epic.

Ongoing revision of our CQM reports to maintain their concordance with evidence-based clinical guidelines and utility for quality payment programs:

Throughout the course of the project, we enhanced our clinical performance reports on an ongoing basis to stay current with preventive services and clinical practice guidelines. Based on our research

findings, we added new CQM in the areas of primary care medication safety and chronic kidney disease detection and management. We extensively revised our patient registries, adding measure grouping tabs and individual patient level tabs so that practices can view performance by measure sets relevant to value based payment programs. To support our members' needs for CQM reporting for the Physician Quality Reporting System (PQRS) and subsequently the Merit-based Incentive Program System (MIPS), we successfully applied to the Center for Medicare & Medicaid Services (CMS) for PPRNet to be a Qualified Clinical Data Registry (QCDR). This designation not only benefited our members by helping them with value-based payments; it furthered our recruitment and dissemination efforts through the publicity provided by CMS for QCDRs. Prior to MIPS PPRNet also established, through consultation with CMS, that it meets the public health reporting objective for the Medicare and Medicaid Electronic Health Record (EHR) Incentive Program for Eligible Professionals, under Measure Option 3 – Specialized Registry Reporting.

Continuing Education Activities:

Throughout the course of the project, PPRNet held annual or biannual continuing education member meetings, annually in Charleston SC, but supplemented by meeting at sea. For several years we hosted monthly webinars to help disseminate our research findings and learning beyond in person meeting format. We had an exhibit at the 2014 American Academy of Family Physicians meeting and made several presentations at the North American Primary Care PBRN meetings and annual member meetings, and at the Society of General Internal Medicine (SGIM) meeting. We provided a template to help its interested member practices apply for the CMS Million Hearts®: Cardiovascular Disease (CVD) Risk Reduction Model. A dozen member practices were accepted in the model. On an almost daily basis PPRNet staff and faculty assisted member practices with their interpretation of our clinical quality reports and attempts to improve their practices.

Web and Social Media:

Throughout the project, we maintained and enhanced our web and social media presence. Our website content and organization was regularly refined. We incorporated the ability to process membership and meeting registrations and payments, Listserv requests and inquiries through our web page. Facebook, Twitter, LinkedIn, and our Listserv were regularly utilized for visibility, updates and announcements.

Selected publications:

Litvin, C. B., et al. (2013). "Use of an electronic health record clinical decision support tool to improve antibiotic prescribing for acute respiratory infections: the ABX-TRIP study." J Gen Intern Med 28(6): 810-816.

Ornstein, S. M., et al. (2013). "Integration and sustainability of alcohol screening, brief intervention, and pharmacotherapy in primary care settings." J Stud Alcohol Drugs 74(4): 598-604.

Ornstein, S. M., et al. (2013). "Preventive services delivery in patients with chronic illnesses: parallel opportunities rather than competing obligations." Ann Fam Med 11(4): 344-349.

Nemeth, L. S., et al. (2013). "Organizational attributes and screening and brief intervention in primary care." Addict Behav 38(11): 2639-2642.

Ornstein, S. M., et al. (2013). "The prevalence of chronic diseases and multimorbidity in primary care practice: a PPRNet report." J Am Board Fam Med 26(5): 518-524.

Litvin, C. B. and S. M. Ornstein (2014). "Quality indicators for primary care: an example for chronic kidney disease." J Ambul Care Manage 37(2): 171-178.

Litvin, C. B., et al. (2015). ""Meaningful" clinical quality measures for primary care physicians." Am J Manag Care 21(10): e583-590.

Ornstein, S. M., et al. (2015). "Learning from primary care meaningful use exemplars." J Am Board Fam Med 28(3): 360-370.

Litvin, C. B., et al. (2016). "Use of Clinical Decision Support to Improve Primary Care Identification and Management of Chronic Kidney Disease (CKD)." J Am Board Fam Med 29(5): 604-612.

Nemeth, L. S., et al. (2017). "Priorities and Preferences for Weight Management and Cardiovascular Risk Reduction in Primary Care." Fam Community Health 40(3): 245-252.

Melvin, C. L., et al. (2017). "A systematic review of lifestyle counseling for diverse patients in primary care." Prev Med 100: 67-75.