

Research and Operations: Joining Forces to Improve Care for Veterans

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The Veterans Health Administration's move to adopt a joint operations-research perspective in promoting clinical innovation in the health care system has led to an increasing number of researchers, clinicians, and policy leaders collaborating on quality improvement activities. We describe 2 such programs, both aimed at improving care for older veterans, which were conducted by teams with both research and operations experience. We explore differences in perspectives, contributions, and roles of various team members, as well as discuss benefits and challenges of research-operations partnerships in quality improvement activities.

Growth is never by mere chance; it is the result of forces working together.

James Cash Penney

The Veterans Health Administration (VHA) is committed to continually improving the care delivered to America's veterans [1]. Advancing health care innovation has long been a shared goal of many of VHA's program offices, clinicians, and managers (hereafter referred to as operations), as well as research programs such as Health Services Research and Development (HSR&D). Although aligned in purpose in many instances, operations and research have historically worked separately [2]. Lack of communication and cooperation between these groups has contributed to occurrences of health care research not being relevant to key stakeholders, initiation of new clinical programs and policies without supporting evidence or evaluation, and delays in translation of research findings into practice.

The need to join forces to spur health care innovation that is rapid, relevant, and evidence-based has been recognized for some time. Fortunately, successful examples of research-operations partnerships are becoming more common. HSR&D and the Quality Enhancement Research Initiative (QUERI) have emphasized partnered research as a major strategy for enhancing the value and impact of health care research [2]. This has led to many new studies developed jointly with input from stakeholders in clinical and policy roles, with various levels of engagement from partners [3]. There are also notable recent examples of operations tapping researchers to evaluate new clinical programs or ini-

tiatives, such as the implementation of the patient-centered medical home and the lung cancer screening program [4, 5].

VHA's move to adopt a joint operations-research perspective in promoting clinical innovation in the health care system is also evident in the increasing number of researchers, clinicians, and policy leaders collaborating on quality improvement (QI) activities. As part of its Transformation to the 21st Century Non-institutional Long Term Care (T21 NILTC) initiative, the VHA Office of Geriatrics and Extended Care (GEC) has funded more than 167 clinical demonstration projects since 2010 to support innovative programs intended to reduce the need for institutional care among older veterans. Importantly, while these projects were not research and there was no mandate for input from researchers, rigorous evaluation was encouraged in order to understand each project's impact. Thus, there was a range of administrative, clinical, and evaluative skills needed to bring these projects to fruition. Not coincidentally, 39 of these projects were developed and implemented in Geriatric Research, Education and Clinical Centers (GRECCs), national centers of excellence that explicitly include both research and clinical innovation as part of their mission [6].

By 2017, 9.8 million veterans will be aged 65 years or older. Older veterans commonly have multiple chronic medical conditions as well as cognitive and social challenges that increase their risk of emergency department visits, admission to the hospital, and ultimately institutionalization in nursing homes [7, 8]. We describe 2 programs aimed at improving care for this large and vulnerable group of veterans that were originally funded by operations through the T21 NILTC initiative and were conducted by teams with both research and operations experience. We explore differences in perspective, contribution, and roles of various team members, and we discuss benefits and challenges of research-operations partnerships in frontline QI activities. Table 1 lists other examples of clinical demonstration projects conducted by teams with both research and opera-

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tions expertise to improve care for older veterans in North Carolina [9-13].

Assisted Early Mobility for Hospitalized Older Veterans: STRIDE

STRIDE is a supervised walking program for hospitalized older adults. Initiated by a physician and health services researcher and funded through operations by the VHA Office of GEC, STRIDE was designed to address the important clinical problem of immobility during hospitalization, which has negative consequences including hospitalization-associated disability [14-16]. Although the dangers of immobility in the hospital have been recognized for more than 2 decades, sustained solutions to this problem have been elusive. Developed by a team of physical therapists, physicians, nurses, exercise physiologists, recreation therapists, and clinical service managers, STRIDE consists of a 1-time gait and balance assessment conducted by a physical therapist, followed by daily walks for the duration of the hospital stay that are supervised by a walk assistant (non-licensed therapy aide).

STRIDE was funded in October 2011, and the first patient was enrolled in February 2012. During the first 5 months of the program, 92 older adults participated. A significant proportion of STRIDE patients had functional deficits at baseline; 50% used an assistive device for walking, and 45% reported at least 1 fall in the previous 3 months. STRIDE walks lasted for 10 minutes, on average, and 90% of patients reported feeling better after their walk. To examine the program's impact, we compared STRIDE participants to patients who were referred but not enrolled in the program, either because the program was at capacity or because they

refused to participate (n = 35). These 2 groups were similar in terms of all demographic and clinical characteristics examined; however, we found a significant difference in post-discharge destination among those who participated in the walking program compared to those who did not. Overall, 92% of STRIDE participants were discharged home, compared to 74% from the usual-care group ($P = .007$); the remainder were discharged to skilled nursing or rehabilitation facilities [9].

Based on these data, previous research in other settings [17], and positive feedback on the program from staff and veterans, STRIDE was made a permanent clinical service at the Durham Veterans Affairs Medical Center (VAMC) in June 2013, just 20 months after its initial funding. STRIDE now serves more than 600 veterans annually at the Durham VAMC, and the VHA Office of GEC has funded a dissemination grant to launch the program at another medical center. The rapid evolution of this project—from clinical demonstration project to permanent clinical service—was a direct result of clinicians, researchers, and managers working together to develop and implement a program that was tailored for local conditions, had a rapid data collection and analysis plan, and was responsive to the needs and interests of veterans and hospital leadership.

Enhancing Quality of Prescribing Practices for Older Veterans Discharged From the Emergency Department: EQUIPPED

EQUIPPED is a multicomponent QI program aimed at reducing the number of potentially inappropriate medications (PIMs) prescribed to older veterans who are treated in emergency departments. EQUIPPED was initially started

TABLE 1.
Clinical Demonstration Programs for Older Veterans in North Carolina Conducted Jointly by Researchers and Clinicians

Program name	Description
Gerofit [11]	A supervised exercise program for veterans aged 65 years or older aimed at reducing functional decline.
Transitional Care Partners (TLC) [12]	A 30-day "Hospital to Home" program for post-discharge veterans and caregivers.
Caring for Older Adults and Caregivers at Home (COACH) [13]	Home-based dementia care program that provides caregiver support and education to improve dementia care, alleviate caregiver burden, and delay nursing home placement in collaboration with Patient Aligned Care Teams.
Assisted Early Mobility for Hospitalized Older Veterans (STRIDE) [9]	A supervised walking program for hospitalized older veterans to reduce length of stay, improve physical performance, and reduce nursing home admissions.
Enhancing Quality of Prescribing Practices for Older Veterans Discharged from the Emergency Department (EQUIPPED) [10]	A multisite interdisciplinary quality improvement initiative aimed at reducing use of potentially inappropriate medications in older emergency department patients through provider education, decision support, and performance feedback.
Video Telehealth Geriatric Evaluation and Management (GRECC CONNECT)	This collaborative project provides geriatric evaluation and management services via clinical video telehealth consultation and provider education to rural community-based outpatient clinics.
Elder Care in the Hospital (ECHO)	A program designed to train nurses in acute care of older adults and to implement nurse-led protocols for hospitalized older veterans.
Tele-rehabilitation program (TeleHOME)	This program uses mobile clinical video telehealth technology to provide remote physical and occupational therapy to rural veterans with limitations in functional mobility, focusing on use of assistive technology and training to enhance safety and independence.
Rural Osteoporosis Evaluation Service (ROPES)	This program identifies veterans with osteoporotic fractures who are not currently receiving fracture prevention therapies, provides expert chart review and electronic consultation to their primary care providers, and provides a fracture liaison nurse to provide patient education, test ordering, and medication adherence follow-up.

as a local clinician-driven QI project at the Atlanta VAMC. With funding from the VHA Office of GEC through the T21 NILTC initiative, an interdisciplinary team comprised of physicians, pharmacists, gerontologists, QI nurses, and health services researchers was formed. Building on diverse operations and research expertise related to emergency care and geriatric pharmacotherapy at 3 original sites (Atlanta, Durham, and Tennessee Valley) [18, 19], the team collaborated on the design and implementation of a multi-component intervention that would include rigorous evaluation of both implementation and outcomes.

The overall goal of EQUIPPED is to reduce emergency department prescribing of PIMs, as defined by the American Geriatrics Society 2012 Beers Criteria Update [20]. PIMs, as identified by the Beers Criteria, have been associated with poor patient outcomes including adverse drug events and hospitalization [21, 22]. The EQUIPPED intervention consists of academic detailing, audit, and feedback with peer benchmarking and clinical decision support tools [10]. Consistent with results from the first site to report results [10], the Durham VAMC has experienced a significant decrease in the rate of PIMs prescribed to older adults in the emergency department since the inception of the project (see Figure 1).

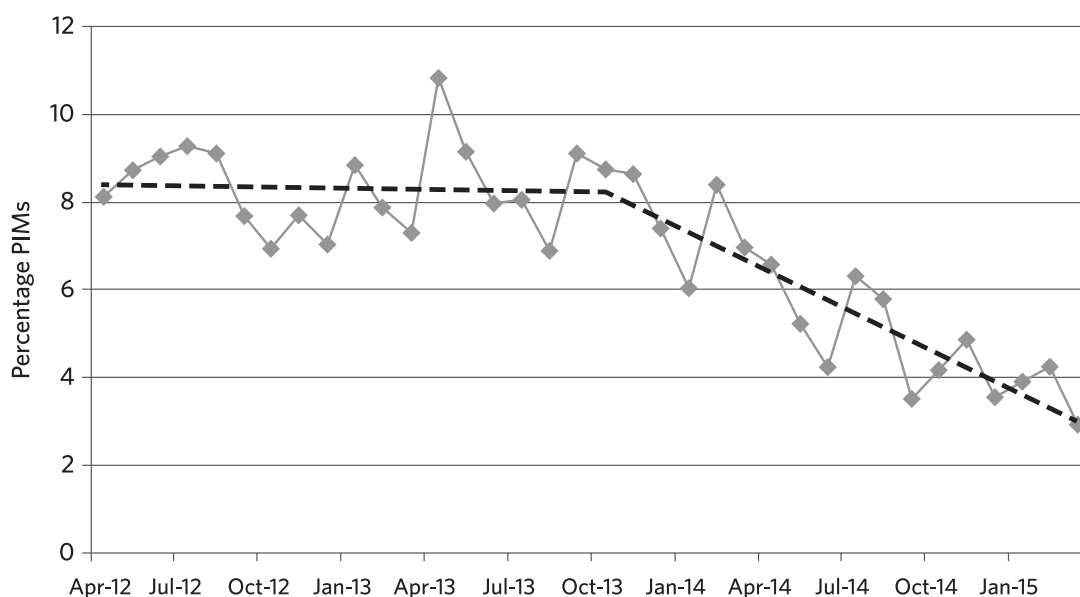
Based on these results, the EQUIPPED intervention has been sustained in the 3 original medical centers since the project was funded in 2012. In 2013, with additional funding from the VHA Office of GEC, the program was expanded to 2 additional sites through the GRECC infrastructure. In 2014, with support from the VHA Office of GEC and the

Office of Rural Health, EQUIPPED was also implemented in 3 rural Veterans Affairs emergency departments, for a total of 8 Veterans Affairs emergency departments currently participating in the program.

Perspective and Contributions by Team Members With Research and Clinical Focus

Table 2 lists a summary of the differences observed between team members on both projects based on their primary role in research or operations. Team members with research expertise led efforts to obtain and summarize relevant literature and design evaluation plans. Clinicians served as content experts regarding the patient care needs targeted by the QI projects, and they provided invaluable logistical information about each setting of care (hospital and emergency department). During implementation, researchers focused on data collection and integrity, while clinicians (eg, physicians, nurses, pharmacists, and physical therapists) devised clinical protocols and served as project champions among their peers and other providers. Team members with administrative roles were instrumental in planning for the sustainability of the projects. For example, STRIDE required hiring new personnel. A team member with an administrative role in the medical center advised on how to hire project staff directly into positions that could be maintained once the program was made permanent, helping to smooth the transition from grant-funded project to permanent program. Similarly, during EQUIPPED, team members with administrative roles were responsible for innovations that enhanced the project's sustainability, such

FIGURE 1.
Prescribing of Potentially Inappropriate Medications (PIMs) to Adults Over the Age of 65 Years Discharged From the Durham Veterans Affairs Emergency Department



Note: Dashed line indicates results of piecewise non-linear regression.

TABLE 2.
Perspective and Contributions by Team Members Based on Primary Role in Research or Operations

Research
Knowledge of relevant scientific literature and conceptual models
Expertise in design, data collection, and statistical methods
Early recognition of barriers for successful evaluation
Attention to data integrity
Familiarity with national administrative data sources
Emphasis on dissemination of lessons learned
Operations
Knowledge of Veterans Health Administration priorities and needs; clinical champion
Early recognition of barriers to successful implementation
Emphasis on tailoring for local conditions and rapid pace of implementation
Familiarity with clinical tools and local and regional data warehouses
Existing relationships with decision makers
Expertise in metrics to achieve sustainability

as developing tools for automating prescribing reports for providers [23].

Benefits and Challenges of Research-Operations Partnerships in QI

Our experience suggests that a primary benefit of research-operations partnerships in QI is the potential to make quicker and more meaningful change in clinical practice than could be accomplished by either group working alone. There is no doubt that the quality and evaluations of the programs described previously would have been weaker without the participation of team members from various backgrounds. Research and operations also offer different and complementary paths for dissemination of findings. Researchers use national networks such as GRECCs and the HSR&D Centers of Innovation to communicate results and find new sites for collaboration. Operations personnel facilitate reporting to national VHA policy groups as well as clinicians through educational offerings such as webinars and virtual meetings.

The challenges faced by teams with diverse professional backgrounds largely involved negotiating timelines and evaluation metrics, as well as recognizing and observing boundaries between research and operations activities with regard to use of data. Researchers placed a high premium on a traditional statistical threshold of $P < .05$ to determine the significance of results. In contrast, clinicians and policy makers took a more holistic view in judging the impact of a project, also considering pre-existing research evidence, the urgency of the problem, the cost-versus-benefit of the potential solution, and the perceived opinions of veterans and the public. Ultimately, in working through these challenges, the synergy of the partnership was revealed. Beyond the work accomplished on individual projects, a combined and lasting effect of this collaboration was the enhanced understanding of one another's expertise and perspectives,

which will influence future endeavors.

In order to continue to grow research-operations partnerships as a tool for advancing health system innovation, VHA leadership must explicitly acknowledge the value of these bidirectional partnerships. This is essential for ensuring that efforts devoted to these types of joint activities are viewed appropriately from the standpoint of professional advancement. It is also critical for moving toward infrastructure that supports collaboration, such as providing mechanisms for bridging separate administrative structures. Publication of results in the peer-reviewed literature is important for sharing evaluation strategies and for promoting dissemination; thus it needs to be encouraged among all groups.

Joining Forces

Research and operations share a common purpose of improving the health and health care of veterans. Although there are many factors that tend to separate these units of VHA, more can be accomplished faster through combined efforts. Continued investment in creating and fostering partnerships between research and operations will yield important dividends in the care of our nation's veterans. NCMJ

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