

Research Designs for Studies Promoting Healthcare Organization Change: Should Action
Research Have a Place at the Table?

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Abstract

Background: The persistence of a large knowing-doing gap within healthcare organizations has aroused considerable concern and numerous suggestions for methods to close the gap and improve health outcomes. Techniques studied to date have had only modest impact, possibly because they have not taken into account the nature of healthcare organizations as complex adaptive systems. A large non-healthcare literature suggests the potential of action research as a method for facilitating positive organizational change.

Discussion: The published literature on action research from different disciplines (anthropology, sociology, education, healthcare (nursing, medical, health care management), and public health) is reviewed to assess whether (1) its design is more consistent with how complex adaptive systems operate, (2) whether or not it is effective in bringing about organizational change and improved outcomes, and (3) how it might be studied and applied in health care settings.

Summary: Large non-healthcare literatures suggest the potential of action research for organizational change. Two systematic reviews within healthcare are inconclusive but point to the need to improve the quality of action research designs and reporting. On a theoretical level, action research honors the complex adaptive system nature of the healthcare organization but higher quality studies using this technique need to be carried out to confirm or disprove its place in the toolbox of healthcare organization change.

Background

Case Presentations

Dr. Doright prides himself on keeping on top of the literature in his area of practice and wants his patients to have the most appropriate evidence-based treatments. He practices in an office with 6 other physicians who he believes share the same values. Dr. Trialit approaches Dr. Doright and his colleagues to participate in a research trial to improve the care they deliver. Initially they are not interested. However, when they tried to prove to themselves that their care was excellent already, they discovered how difficult and costly it was to actually document the quality of their care. The group decided to call Dr. Trialit back to participate in her trial in part because she was offering free software to assemble patient registries by diagnosis and to acquire lab test results electronically. Dr. Trialit was thrilled and explained that the grant proposal was being submitted next month. At the earliest, the study would start in 10 months but more likely would be closer to 18 months if it had to be resubmitted after the first review. Dr. Doright, his colleagues and his office staff, not willing to wait to work on improvement, devised for their paper charts a color coding scheme by diagnosis to use until the software was available and then began to undertake other disease specific improvement projects while waiting for Dr. Trialit's grant to be funded. Will the changes made by Dr. Doright and his colleagues prior to the start of the trial change Dr. Trialit's chances of finding a difference between intervention and control arms? Is Dr. Doright's paper registry really any different from Dr. Trialit's computerized registry? That is, had the practice already enacted one of the planned interventions?

Dr. Alwaysdoneitthisway is confident that he provides good care to his patients and has no interest in participating in research to change his care. When Dr. Trialit approaches him to

participate, he declines. Are the validity of the results of Dr. Trialit's study compromised by having only volunteer practices, that is, practices receptive to the idea of change?

Dr. Iwantasay agrees to participate in Dr. Trialit's study but wants a say in how the study will be conducted in his office. In particular, he wants to choose the type of quality improvement intervention. Dr. Trialit is concerned that he will not follow the protocol as set forth in the grant proposal, compromising the reproducibility of any study results. She decides it is best not to include his practice.

These cases illustrate a number of the problems facing those interested in conducting research aimed at improving clinical practice:

1. Healthcare organizations or their subcomponents, clinical microsystems, are not static. They are constantly adapting to their environment, to their patients, and to their team members' skills and backgrounds. Designs that take this into account rather than ignoring it are likely to be more acceptable to the clinical microsystems than designs that attempt to get the microsystems to stay static except for the intervention.
2. Volunteer bias is a concern in quality improvement/organizational change research as it is in clinical research. Allowing the practice team to participate in designing their improvement strategies may increase the number and variety of practices willing to participate.
3. One size fits all interventions are less applicable because of the uniqueness of each environment. Interventions that allow each microsystem to identify and attempt its own unique blend of potential interventions might be more effective.

In this article we discuss whether action research designs, as suggested by Aaron,[1] Waterman,[2] and others [3-5] may help overcome these and other concerns in healthcare organization change research, also referred to as implementation, translation and/or quality improvement research.

Participatory action research is a frequently used systematic technique, derived over the last 40 years from the sociological, organizational, educational, and evaluation research literatures but is one of a number of research designs not typically taught to medical researchers.[6] The purpose of this article is to (1) make the case for why we need to consider using different research methodologies than are currently employed in implementation and quality improvement research, (2) define participatory action research, its core characteristics, and quality standards for conducting it, (3) discuss the similarities and dissimilarities of action research to current quality improvement strategies, (4) discuss how the use of PAR could supplement traditional research designs, (5) discuss the potential of PAR to improve our ability to get research findings into practice. Our overall aim for this paper is to begin a dialogue between seemingly opposing streams of thought within the healthcare community about how to study change in human organizations in general and health care organizations in particular.[6,7]

Discussion

I. Why we need to consider different methodologies than are currently employed in implementation and quality improvement research

A. The Persistence of the Knowing Doing Gap in Healthcare

Numerous reports and research publications have documented a gap between what is known to be effective based on high quality clinical/medical research and what is actually delivered in the course of usual medical care in this country.[8-11] Efforts, both “on-the-job” in

clinical practice and in research to identify effective methods for reducing the “quality chasm” have resulted in smaller degrees of change than desired.[9,12,13] A large, primarily atheoretical body of research in the medical literature documents that focusing on changing individual provider behavior to close this gap has led to disappointingly small improvements in care.[14-18] Standard educational approaches have small but significant effects.[14,19] Interventions tailored to address identified barriers to change compared to no intervention were not clearly superior but only 15 studies were found and the reviewers were unable to determine whether the barriers were valid, which were the most important barriers, whether all barriers were identified and if they had been addressed by the intervention chosen.[20] One major lesson from this literature is that targeting individuals—either patients or providers—is often not enough to improve care and that we need to also target the system or the organization.[8]

B. Some reasons why designs and methods used to date are not optimally informative or have not closed the gap

B1. Why Well Designed RCTs of Healthcare Organization Improvement are Infrequent

The evolution of clinical research over the last 40 years has led to the belief that knowledge derived from randomized controlled trials is of higher quality than any other type of knowledge, based on many examples of patient-level non-randomized studies that have led to conclusions that were later found to be spurious based on RCT evidence.[6,21-23] Additionally, through the use of the randomized, often blinded (sometimes doubly) controlled trial (RCT), we can control for temporal trends, regression to the mean, placebo effect, and unmeasured confounders.[7,24-26] Having learned these lessons well from patient level research, the majority of medical researchers believe that, in order to find out if an organizational intervention

is effective, we must randomize the organizational unit, just like we randomize the individual patient or clinician in trials.[7,24]

Clinicians and health care administrators support use of knowledge from patient level RCTs but are frustrated by the lack of highly effective methods for changing provider and clinical microsystem behavior.[6,8] But their opinions regarding the need for and usefulness of organizational level RCTs vary considerably.[6,27,28] Many leaders in the quality improvement and patient safety movements do not support the need for organizational RCTs and argue instead for experiential learning through methods such as Plan-Do-Study-Act cycles.[6] In this context, organizational RCTs are viewed as academic endeavors that cannot be conducted fast enough to keep pace with the need for rapid change or have limited applicability to organizations not included in the RCT.

In addition to this lack of enthusiasm by health care managers to engage in RCTs, other reasons RCTs have been uncommon in clinical microsystems include: the unique nature of each microsystem making both adequate randomization and fidelity of intervention difficult, the cost of carrying out such a trial in an adequate sample of clinical microsystems (often 20-30 clinical microsystems in each arm), the constraints on mid-course corrections of the intervention, a lack of tradition in business for trialing new methods using RCTs, a frequent and perhaps justified unwillingness to turn over control of usual operations to a researcher, and the slowness of planning, funding, conducting, and analyzing RCTs (typical funding cycles taking 9-18 months from grant submission to initial funding). Some business researchers argue that the RCT format is even inappropriate for the question of studying effective methods of organizational improvement.

B.2. Lessons from the non-RCT quality improvement literature

Although generally not carried out as research in general or RCTs in particular, a large literature exists describing various methods of quality improvement, including Donabedian's original model of process, structure, outcome;[29] Deming's total quality improvement (TQI) and adaptations thereof such as continuous quality improvement (CQI);[30] regulation and certification such as JCAHO,[31] techniques to decrease variability such as Six Sigma,[32,33] the Institute for Health Care Improvement's (IHI) and UK's National Health Service's breakthrough or learning collaboratives coupled with local Plan-Do-Study-Act cycles;[34,35] and the recent patient safety initiatives (such as high performance teams) modeled after the aviation industry.[36] These techniques for improvement are generally derived from industry, especially the manufacturing and service delivery sectors. Underlying health care systems' adoption of these improvement techniques is a belief that they have been "proven" to work in industry, by virtue of the fact that financially successful or consistently safe organizations have used them. For the most part, these techniques are derived from case studies or case series of organizations employing these techniques. Little randomized trial evidence exists demonstrating the magnitude of impact of many of these practices.[13,37,38] Proponents of RCTs have called for their use in quality improvement work.[7,27] Despite the lack of RCTs to prove the efficacy of quality improvement techniques, they have been widely adopted and are believed to have face validity.[6,13,28] Because we are desperate to improve healthcare and because non-medical social science, education, and business researchers as well as businessmen have a culture of belief in their own observations and/or trial and error learning, medical administrators are more likely to be part of this belief system than they are part of the "only worthwhile study is an RCT" culture.

Even though before/after trials and case series are more likely to have positive outcomes than RCTs,[39] these quality improvement or organizational change techniques discussed above and borrowed from other industries have produced lower than hoped for gains in performance in health care organizations. One reason may be they are just not that effective. A second explanation and the one we want to explore in more depth is that the nature of the business from which the technique is derived may not be well matched to the nature of the organization to which it is being applied. For example, healthcare organizations' processes cannot be fully specified because of the element of surprise and uniqueness of each individual patient. While some uniformity of process is useful for improving patient flow through the system (such as Advance Clinical Access [40,41]) or decreasing medical errors (surgical/procedural time outs for patient and procedure identification [32,33]), healthcare organizations must also be able to deal with the inevitable surprises/emergencies that are characteristic of ill human beings. Manufacturing processes are aimed at eliminating deviation and surprise. Mounting evidence suggests that health care organizations are not like manufacturing plants or even successful service delivery organizations. To move forward, the suggestion has been made that we need to change our conceptualization of healthcare organizations as machines to complex adaptive systems (Table 1).[42,43] The implications of the paradigmatic change for quality improvement and organizational change efforts are enormous and challenging. This challenge was noted by the IOM in Crossing the Quality Chasm when they included an appendix on complexity science.[8] As reviewed by Glouberman and Zimmerman[43] and Hawkins[44] and summarized in Table 1, when healthcare organizations are viewed as complex adaptive systems, interventions would have to take into account the unique starting point of each organization, the difficulty if not impossibility of controlling the environments of the organizations to be studied—by the time

an intervention is starting the landscape has already changed, the need to pay attention to the relationships of the individuals within the organization more strongly than the competency of the individuals, and the non-linear dynamics of change in such organizations in which small changes can have large impact and large efforts at change may have little impact.

B.3. What can be learned from non-healthcare literatures

Efforts to change health care could be better informed by the organizational change literature. Numerous barriers to organizational change have been identified: routines established in organizational memory,[45-47] threats to the existing power system or powerful opposing coalitions (political barriers);[48] organizational defensive routines that block inquiry and learning;[49] failure of individual learning to be shared with the rest of the organization;[50,51] and opposing mental models.[52] Facilitators of organizational learning include *participation or decisional control* to overcome resistance to change [53,54] and *collaboration* to reduce defensive behavior, surfacing valid information, deepening learning about root causal factors, and enhancing “ownership” of meaningful knowledge.[55-57] An emerging literature suggests that collaborative inquiry or action research methods can break through the barriers by changing the nature of the conversations that people have around organizational problems,[58] especially when these methods integrate multiple levels of the organization, i.e. when learning at the top and bottom meet in the middle[59] and build up positive affect and cooperative emotionality.[60,61]

Community health activists and researchers, experts in social and organizational change, and scholars applying complex adaptive system theory to organizations have all pointed out that typical biomedical research designs and techniques may not be well-suited for community and

organizational interventions.[2,62,63] (A dissenting research community advocating RCTs in social change experiments also exists.[7]) Action research that embodies particular core qualities and standards may provide an intervention alternative that takes into account the complex adaptive system nature of healthcare organizations.

II. Defining participatory action research, its core characteristics, and quality standards for conducting it

Over the same 40 years that clinical research evolved the RCT, social scientists working in the fields of business, political science, education, sociology, evaluation, and community interventions have explored a different interventional research paradigm, generally referred to as participatory action research (see Table 2). In these traditions, the action research design is viewed as legitimate and forcing randomization might be considered untenable, unnecessary or even, in some circumstances, unethical. The RCT has increased considerably in some social research settings[7,64] but is still not considered necessary, especially in the action research community, in order to derive useful and valid knowledge from interventional social science research. “As has long been pointed out, the findings of traditional social science are of little or no use to members of organizations or practitioners; action research seeks to address the division between academic research and the everyday practice”[65] –a divide similar to that seen between academics studying guideline implementation and those practicing quality improvement.[6]

Essential elements and typical methods of action research are shown in Table 2, derived from reviewing definitions of action research across disciplines and qualitatively analyzing these definitions for themes and commonalities. Action research focuses on problem solving (or appreciation of what is working in appreciative inquiry), is collaborative (researchers become

participants and participants become researchers), often uses a cyclical, reflective inquiry design, and aspires to also be transformative for the participants and their organizations.

Two systematic reviews of action research on health issues are available. In 2004, the Agency for Healthcare Research and Quality sponsored an evidence report on community-based participatory research.[62] This review found only 12 completed interventional studies, four of which were RCTs. Findings revealed modest positive health outcome findings but the reviewers could not determine whether this benefit could be attributed to the community-based participatory research methods. Enhanced community capacity was demonstrated in numerous ways.[62] The UK National Health Service funded a systematic review of action research published in 2001.[2] Waterman, et al defined ‘impact’ for the purpose of this review as ‘a lasting effect or influence.’ “Initiatives that persisted at the same location were found in 32 studies (54%) and, in a small number (four studies, 13%), an effect beyond their location was claimed. Educational impacts at the same location were reported in nine studies (28%).”[2] Both reviews suggest the need to further understand what constitutes high quality action research and how best to evaluate both the quality and the outcomes of such research. Viswanathan[66] provides a checklist for those reviewing community based participatory research proposals. Using the lens of complexity science, may help us to identify those elements of highest importance—for example, whether the quality of the relationships among the individuals involved in the research change—in addition to intended health outcomes.

III. Similarities and dissimilarities of action research to current quality improvement strategies

While the name action research is not widely used in clinical circles, many of our quality improvement techniques have features of action research. First, key individuals should be involved in the improvement team, especially those with a fundamental knowledge of the context in which the improvement is to be undertaken. Second, the team should be problem focused. Third, the work undertaken should be cyclical in nature using a “plan-do-study-act” format, with repeated cycles leading to incremental improvement.[67] Fourth, QI often strives to be transformative to the individual involved so that they can problem-solve the next new problem that arises. The addition of “collaboratives” to local QI adds elements of diffusion of innovation and peer pressure/peer opinion leadership but not so much elements of action research.[34,35] For example, collaboratives tend to have experts or opinion leaders suggesting the type of interventions to try at home, although individuals share their experiences with each other as well.

If QI appears to have a lot in common with action research, why has it not been as successful as we had hoped in closing the gap? One possibility is that in the manner it is usually carried out it ignores some important characteristics of complex adaptive systems such as the importance of relationships over individual performance and skill, the need to look at the system as a whole more than the individual parts, the need to understand the inherent element of surprise in health care systems, the need to learn from outliers as much as averages, and the non-linearity between effort and outcome.

IV. How the use of action research would alter traditional research designs and barriers to their implementation

While nothing precludes action research being carried out within the format of an RCT, in-depth perusal of Table 2 identifies areas where action research presents particular challenges to implementation as an RCT. Problem focus and action orientation are consistent with an implementation RCT. Cyclical, emergence, reflective inquiry, and collaborative design are more challenging. For example, making the intervention context specific challenges the typical requirement in an RCT of delivering the exact same intervention to each unit or participant. Compare a study to improve care for cardiovascular risk factors in family practices using a multifaceted intervention that involves creating patient registries, teaching a staff member to run group visits, and sending out med refill reminders to patients to an action research design where each practice is presented all three of these possible methods of improving or is free to choose any other that they feel will work in their setting. In the latter, the intervention is working with the practice to motivate them to problem solve and focus on this particular area (cardiovascular risk factors) for improvement while in the former it is to test the efficacy of these three specific interventions as a combination in family practices. Healthcare researchers who are currently undertaking practice interventions that could be classified in a broad sense as action research within an RCT include Crabtree,[68,69] Stange,[70] Parchman,[71] and Nutting[72]. Their practice change model has been described.[4]

Other issues (in addition to the use of the RCT format) for studying action research methods include the need to have some common outcomes across studies in healthcare settings, the need to engage a larger number of units in trials (and following from this the need for funding for larger trials), and the willingness of health services and implementation researchers to collaborate fully with participants, including in research design. To help standardize action research interventions, it may be best not to define the intervention not in terms of medical

content but rather in terms of group facilitation and time for reflection and relationship building and define the training required to carry out such an intervention. We also are advised to acknowledge the need for sites to continue to change even during our research projects—and to build in continuing measures of degree of implementation, intermediate and potentially predictive outcomes (such as staff relationships and learning) as well as health outcomes.

B. Barriers to the Future of Action Research RCTs in Healthcare Organizations

Organizational RCTs are expensive. Implementation/translation research is often difficult to carry out using the methodological paradigm of the RCT. The sample size, using the facility or clinical microsystem as the unit of randomization is often prohibitively costly, often requiring 30 or more facilities in each arm.[73] If the sites are geographically dispersed, travel and intervention personnel costs are even higher. If these sites are governed by different institutional review boards (IRBs), the cost in time alone of submitting protocols to the different IRBs may be prohibitive as well as methodologically problematic when suggestions for protocol changes come from multiple different IRBs. Time series designs, considered less rigorous, nonetheless can require 12-24 time points of measurement pre- and post-intervention to be considered statistically sound.[74,75] Additionally recruiting facilities or practices to be participants in randomized trials can be difficult. Convincing facilities to either accept “no intervention” but be inconvenienced for data collection or to accept a “standardized” intervention (one which does not permit local customization) is often unacceptable, especially when the topic area is one that the facility feels compelled to act on now.

Further concerns for designing and carrying out action research RCTs include the potential difficulty in adequately matching sites to their unique starting positions, the fact that sites will keep evolving and changing both before the study starts and during the study, and not

all the sites will agree to carry out the exact same intervention or will modify it to their own needs.

Summary: Why action research may improve our ability to get research findings into practice

In summary, the common elements across most definitions of action research appear to be a better match than more traditional intervention designs to the emerging idea that healthcare organizations are complex adaptive systems rather than machines. It is possible that we have maximized the amount of success we will have with traditional techniques of quality improvement, certification, and patient safety. To gain incremental benefit, we may now need to turn to improving the role of relationships among healthcare workers, managers, and patients; to acknowledge the likelihood of unpredictable, emergent outcomes; to plan for the predicted non-linearity of response to interventions; and to accept the cost and complexity of engaging in change efforts in healthcare. Action research will not be a silver bullet but it may lead to deeper understanding of the nature of the healthcare system and the strengths of those who use it and those who work in it. No element of action research precludes application of recognized research methods for studying causality but action research does complicate the nature of the process data that needs to be collected about the intervention implementation during an action research trial. Quality standards from both traditional clinical research and action research can be blended to test action research's efficacy. In short, the health of our complex adaptive healthcare systems may depend on our own ability to adapt our methods for studying and improving it.

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Table 1: Comparison of Complicated/Machine vs. Complex/Adaptive Systems by Clusters of Characteristics^{43,44}

Complicated/Machine/Mechanistic	Complex/Systems/Complex Adaptive Systems
Understand by knowing the parts	Understand by knowing the whole
Parts/Agents with same qualifications are interchangeable	Agents are constantly learning and have unique combinations of skills
Quality of parts/agents most important	Quality of relationships between the parts or agents most important
Linear (inputs and outputs linearly related)/ Designed and intended outcomes/ Assume predictability	Non-linear (inputs and outputs not directly correlated)/ Adaptive and emergent outcomes/ Recognized elements of non-predictability
Noise, tension and fluctuations suppressed	Opportunity seen in tension, noise and fluctuations
Solution as external to system	Solution as part of system
Insensitivity to baseline conditions/ Context free	Sensitivity to baseline conditions/Contextual
Reductionism/analysis/measurement/contents/quantitative	Holism/synthesis/mapping/patterns/qualitative
Averages dominate: outliers irrelevant	Outliers seen as possible key determinants
Measures of efficiency, fit and best practice	Functioning of actual relationships and feedback loops
Convergent thinking	Divergent thinking
Reductive characteristics	Emergent characteristics
Decision procedure as an event	Decision as emergent
Environmental scan	Developing insights into own practice
Big issue needs big change	Butterfly effect - size of effort does not determine size of change

Table 2: Common Elements and Methods Across Action Research Definitions

Quotes from Published Definitions	References
Names Used	
<i>Action research</i> <u>Qualifiers:</u> participatory action research; cooperative inquiry; appreciative inquiry; community-based participatory research; action learning; action science; developmental action inquiry	2,4,5, 60-62, 65,66, 77-85
Purpose of the Action Research	
<i>Generation of new knowledge</i> <u>Qualifiers:</u> practice-grounded, compelling enough to motivate to action; answer a question of importance to each other	1,62,76,79,71,82,85
<i>Change</i> <u>Qualifiers:</u> social change; improvement; improve health and well-being; take action; solution generation; planning action steps; engage actively in the quest for information and ideas to guide future actions	1,2,62,77-80
<i>Educating</i>	1,2,62,79

<i>Theory generation or refinement</i>	2
<i>Relationship building</i> <u>Qualifiers</u> : strengthen relationships among group members, learn to integrate individualizing characteristics with a deeper communion with others and the world; involvement;	2,81
<i>Developmental/Transformative for the individuals or organizations involved</i> <u>Qualifiers</u> : a re-educative process that develops capabilities and potentially transforms individuals and teams through experiential engagement; empowerment; leadership skills; reciprocal transfer of expertise	2,62,77
Methods	
<i>Problem-focused</i> <u>Qualifiers</u> : problem identification; diagnosing a problem; define a pressing problem; an agreed area of human activity; solution generation; planning action steps; engage actively in the quest for information and ideas to guide future actions	2,76,77,78,80,81,83
<i>Action oriented</i> <u>Qualifiers</u> : usually context specific	
<i>Systematic</i>	1,79
<i>Cyclical</i> <u>Qualifiers</u> : emergence; adaptive cycles of action-feedback-action-feedback-action; repeated episodes of reflection and action; between meetings, members inquire into their own practice, observe their experiences and implement new actions that might help them learn something new about the question; four phases of reflection and action; experimentation; learning at each step to inform the next set of decisions and actions; evaluation leads to diagnosing the situation anew based on learnings from the previous activities cycle	2,76,77,80,81,82
<i>Reflective</i> <u>Qualifiers</u> : self-reflective; members reflect together on their work as it relates to the problem; inquiring deeply into assumptions and root causes, and transferring learning at multiple levels	2, 81,82,83
<i>Collaborative Design and Evaluation</i> <u>Qualifiers</u> : partnership; collective; group activity; social; mutualistic; inclusiveness; requisite variety; collaboration shapes and even transforms methods; co-learning; participation of and relationships among all relevant constituencies or stakeholders; involve all participants in all aspects of the research process; all involved in the change process; community or organization members participate throughout the research process from the initial design to	1,2,44,62,76,77,78,79,80,81,83,84

the final presentation of results and discussion of their action implications; reciprocal transfer of expertise; shared decision making power; mutual ownership of the processes and products of the research enterprise; facilitators and group participants co-author reports to present the findings of each inquiry; participate directly in the research processes which in turn are applied in ways that benefit all participants directly; seeing one's self as part of the field that is being studied; multiple person, multiple perspective with participants as co-researchers	
<i>Context specific</i> <u>Qualifiers:</u> Must be applicable to the system in which the inquiry takes place	2,85
<i>Studying the whole or the patterns rather than the parts</i>	44,77
<i>Qualitative and quantitative data collection and analysis</i> <u>Qualifiers:</u> mixed method designs collecting/analyzing both qualitative and quantitative data in single study; concurrent triangulation with multi-strand, multi-wave design with both qualitative and quantitative collected/analyzed simultaneously/iteratively	2,76
Who	
<i>Researchers</i> <u>Qualifiers:</u> Professional action researchers, core research team members, researchers	2,62,78,81,84
<i>Whoever is affected by the problem being studied</i> <u>Qualifiers:</u> Requisite variety; system members; communities; those affected by the issue being studied; representatives of organizations; members of an organization or community seeking to improve their situation; people in the organization or community; group of peers	1,62,81,82,84,85
Fields Represented	
<i>Health Related:</i> Public Health, Primary Care, Patient Care, Nursing, Health Education, Health Sociology, Disability Research, Environmental Health, Injury Research, Mental Health, Reproductive Health	
<i>Non-Health Related:</i> Anthropology, Business Administration (Organizational Change/Development, Management, Human-Information System Interfaces), Sociology, Community Development, Community Psychology	