

Maximizing Opportunities to Implement and Evaluate Translating Research Findings into Clinical Practice (TRIP)

INTRODUCTION

Background. The HMORN is an excellent laboratory for translational research as it is comprised of a diverse group of healthcare delivery systems, all with associated research staff.

Methods. We obtained information from each HMO on formal organizational characteristics of the research organization (RO) and the delivery system (DS) as well as the structural relationship between the RO and the “parent” system. We conducted informational interviews which focused on the following aspects of TRIP: 1) Modifiers; 2) Facilitators; and 3) Barriers. HMO confidentiality was maintained for all interview data.

Results. Of the 15 HMORN members, 13 HMOs participated: nine with individuals from both RO and DS, two with individuals from RO only, and two with individuals from DS only (see Table 1 for summary). Our results contain information from interviews, emailed questionnaires sent to all HMOs, and HMO websites. Results are organized by TRIP areas of focus:

TRIP. We assigned a TRIP score for each HMO as follows (% of 13 HMOs): 1 = no system for TRIP or dependent on individual clinicians (7.7%); 2 = TRIP driven by departments or care teams, with some IT support (38.5%); 3 = systematic TRIP plus EMR functions and decision support (46.2%); and 4 = researchers highly integrated into DS team structure (7.7%).

Modifiers. We created a variable called “chaos” for both RO and DS where 1 = low chaos and 5 = high chaos. Most felt a minor degree of chaos was beneficial as it initiated improvement measures. Of the 13 HMOs, seven were “academically” oriented, with research tending to focus on mainstream science (e.g., NIH R01 grant support). A third modifier was EMR with variation on how data were used by various organizations and the degree to which ROs had direct access to data.

Facilitators. We identified four types of facilitators: quality and types of communication between RO and “parent”, extent to which interventional research is conducted in the DS, amount of consulting done by researchers in the DS, and the value placed on publishing results.

Barriers. This consisted primarily of issues related to communication, implementing change, and organizational culture.

A VISION FOR 2012

We believe it is necessary for members of the HMORN to share insights regularly about successful experiences with TRIP as well as experiences that did not go so well, and to encourage goal-setting and culture change to create an expectation for TRIP with all research. In order for this to occur; however, TRIP needs to become more highly integrated into the behavior of ROs and the expectations of DSs.

NEXT STEPS:

Study extension. LCF would like to propose a no-cost extension to provide a more in-depth investigation into the characteristics of organizations with successful TRIP track records. We have identified three HMOs for which we would like to gather more detailed information from a variety of researchers and DS staff (most interviewees were mid-to senior level management). We have some funding remaining in our CCSN budget which we would like to use to help reach

broader conclusions about how the HMORN can help facilitate the implementation and sustainability of TRIP. (NOTE: We need guidance on how to go about this.)

RECOMMENDATIONS

We have several recommendations as a result of our research findings; some specific for the HMORN, and some findings that may have general applicability towards TRIP:

1. **Virtual data warehouse.** Even though all participating HMOs have some sort of electronic medical record, there are varying levels of ease of access to data for both the research organization and delivery system. A requirement of successful TRIP is the ability to have access to accurate, up-to-date data for both RO and DS.
2. **Communication.** Our results indicate that the most important facilitator of TRIP is communication, and there are a number of ways that communication can occur to enhance TRIP. Not only does this help develop communication links between the RO and DS, but it helps researchers understand and identify potential research areas as well as helping providers become more interested in research.
 - Ensure formal communication between RO and DS staff through meetings, team membership, and project collaboration.
 - Enhance communication through individuals who are “champions” for research (or a specific type of research) or through key personal relationships, promoting RO/DS communication.
 - Increase informal communication between researchers and DS. Some ROs have as a part of their structure researchers who are actually a part of the DS, and this seems to be the best facilitator of TRIP.
3. **Quality initiatives.** While there are recognized barriers for ROs becoming involved with DS quality initiatives (see limitations below), this is an excellent way to ensure successful TRIP. Encourage participation in quality projects and promotion of interventional studies.
4. **Publications.** ROs need to ensure dissemination of results “locally” rather than focusing solely on journal publication. ROs with high TRIP were more closely tied to the DS where research results were automatically disseminated locally through seminars and newsletters.
5. **TRIP implementation.** ROs need to build TRIP into their research projects whenever possible. In addition, accelerate TRIP implementation, especially where resistance to change is strong. The Colorado Clinical Research Unit (CRU) describes this well in their Mission: *“to develop, conduct, and translate high quality research into practice and to promote evidence-based practices and service-oriented, cost-effective medical care. We partner with clinicians in the design and implementation of research so that the results will be relevant to clinical practice.”* A good thing to keep in mind is not only TRIP, but also, “translating practice into research.”
6. **TRIP Institute.** KPCO is serving as a model with their Center for Health Dissemination and Implementation Research (www.research-practice.org). Their Mission is to 1) *Conduct research on the production and dissemination of effective and practical tools for the integration of health care research and practice; and 2) To serve as a collaborative learning laboratory and a resource to stimulate, support, and evaluate high-priority translational research. They are to be commended for demonstrating the importance of TRIP and creating a means for all interested ROs and DSs to learn.*

CONCLUDING THOUGHTS AND KNOWN BARRIERS

TRIP Modifiers: We identified three modifiers of TRIP (described above) which are conditions of the RO or DS that influence TRIP:

1. **Organizational Chaos:** Although there was variation in levels of organizational chaos, most participants felt that a minor degree of chaos was beneficial as it initiated improvement measures. For most HMOs, the DS chaos was a level or two higher than the RO, but RO chaos level seemed to be tied to the DS level (reasonable result). DS chaos seemed to focus on leadership issues, staff turnover, primary care delivery, and market forces. RO chaos tended to focus on lack of resources, insecure funding, lack of leadership and direction from DS.
2. **Academic orientation:** 54% of the ROs had researchers with some type of academic association. Those ROs tended to focus on mainstream science and publication of results more than translating research into practice at the local level.
3. **EMR:** As mentioned above with the Virtual Data Warehouse, all HMOs have some form of electronic medical record. Data use for the DS was primarily for quality purposes (however, our DS interviewees tended to be linked with the quality department). Only three ROs had direct access to the parent EMR, although some had “indirect” access via data extracted from the EMR into a larger data warehouse.

TRIP Barriers: Although we mention organization and cultural barriers to TRIP below, there were operational barriers which were frequently mentioned concerning communication and implementation of TRIP:

1. **Communication.** There were a number of HMOs that indicated they “used to” have one or another type of formal or informal communication, but no longer do (the reasons were varied, some because there was no longer a need, and others for one or more of the following listed barriers: 1) DS often too busy to listen to RO input; 2) DS may hold researchers in low esteem (they don’t understand our business); 3) priorities are different in DS than RO (see below); and 4) DS unaware of full capabilities of researchers.
2. **TRIP Implementation.** These barriers were mentioned: 1) time (primarily DS), 2) change and managing change, 3) money (primarily RO), 4) lack of resources (also mainly RO), and 5) primary care vs. specialty care (DS indicated disappointment that research emphasis is in specialty areas, not primary care).

Limitations: The information we obtained for this research is rich and detailed and we believe it is helpful in providing insight into improving TRIP. However, there are several limitations to the data obtained that must be recognized:

1. **Small sample:** We were of course limited by the small number of people interviewed, based on the small number of HMORN members.
 - a. Not only was it difficult to obtain an accurate picture based on such a small sample of representatives, but the varied information we received makes it difficult to generalize.
 - b. Our RO and DS participants were all relatively high-level individuals in their respective organizations, and we recognize the limitation from a lack of diversity. Yet, even between individual ROs with high TRIP scores, there were varying reasons for their success.
2. **Data sources:**
 - a. Our interview participants had varying levels of information. Even though we emailed the interview questions to participants ahead of time, we instructed them to answer the questions from their general knowledge (we didn’t want to make

- this task unduly burdensome for them). Thus, there were some sites where the participant did not know the information and we made inferences from data on their website or other sources. We recognize that our data, especially those questions relating to money or size, may not be 100% accurate.
- b. For much of the information on Table 1 we assigned a category based on the information we had with the category definitions indicated. Our assignments were often subjective (e.g., the TRIP category), but we used our committee of four researchers to make the best possible assignment. We believe we received candid information from our interviewees (we were frequently asked for assurances that the results would be anonymous with respect to the HMO) which has added to the richness of our data; however, we recognize the limitations of our admitted subjective categorical assignments.
3. **Conflicting goals:** It became clear as we were conducting our interviews that the ROs and DSs had different, almost conflicting, goals which tended to push them apart, rather than bring them together.
 - a. For example, the goals of most research organizations tend to include national recognition, requiring national publishing and having a presence at national meetings, organizations, and agencies. Delivery systems require a “local” presence which is frequently forgotten when results are being disseminated nationally by ROs.
 - b. Delivery systems need/require research results quickly, especially if they are interested in solving specific problems or trying to “fix” quality issues. Research organizations move more slowly, creating proposals to secure funding for research problems that may not be on the DS horizon. DS quality departments are more involved with national quality standards, and may be less interested in separate research issues.
 4. **TRIP incentives:** There are few incentives for successful TRIP. On the DS side, the primary incentive is related to quality issues; clinical practice issues are solved either through national guidelines or standards or through data/research conducted by DS staff. On the RO side, the primary TRIP incentive is intellectual and professional growth. TRIP is infrequently built into research initiatives.
 5. **Local vs. national TRIP:** Our interviews revealed that all HMOs engage in TRIP to some degree, certainly at the national level. Especially on the DS side, there are national guidelines, publications, standards—a myriad of evidence-based information available to them. Our interviews focused on the local side of TRIP, or the extent to which the researchers collaborated with the DS, and the degree to which the RO shared its research results with the DS. In part because of the conflicting goals and lack of TRIP incentives described above, there is not as much local TRIP done as there is national TRIP (publishing guidelines and evidence-based manuscripts), yet information we received from ROs that were more successful with local TRIP reinforced the notion that local TRIP is important and beneficial.

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Table 1. HMO Organizational Structure for TRIP Study

TRIP Categories	DS Size	Communication	% Funding from Parent	Integrated with Parent	DS Chaos Scale = 1-5	RO Chaos Scale = 1-5	Chaos ratio DS/RO
1	Small	Informal		Low	4	3	1.33
2	Small	Informal	Medium	High	3	2	1.50
2	Medium	Formal		High	2	2	1.00
2	Medium	Informal	High	High	2.5	2	1.25
2	Large	Informal		Medium			
2	Medium	Informal		High			
3	Small	Informal		Medium	3.5	3	1.17
3	Large	Formal	High	High	3	3	1.00
3	Large	Informal	Medium	High	3	2	1.50
3	Large	Formal		Medium	3		
3	Large	Informal	Modest	High	2	2	1.00
3	Large	Informal	Modest	High	3	2	1.50
4	Large	Informal	Modest	High	2	2	1.00

Abbreviations: Delivery System (DS); Research Organization (RO)

TRIP Categories

- 1 No system, dependent on individual clinicians
- 2 Driven by departments or care teams with some IT support
- 3 Systematic and adds EMR functions and Decision Support to Level 2 functions
- 4 Researchers highly integrated into DS team

HMO Size

- Small < 250 Providers
- Medium 250-500 Providers
- Large > 500 Providers