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Using Learning Collaboratives to Improve Public Health Emergency Preparedness Systems

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Using Learning Collaboratives to Improve Public Health Emergency Preparedness Systems

ABSTRACT

The U.S. National Health Security Strategy calls for the development and wide-spread implementation of quality improvement (QI) tools in public health emergency preparedness (PHEP), including the development of “learning collaboratives,” a structured way for organizations with common interests to close the gap between potential and practice by learning from each other. To test this approach, we developed and assessed separate learning collaboratives focused on PHEP emergency communications and on the use of Medical Reserve Corps (MRC) volunteers. Although participants carried out improvement projects that they felt were useful, each collaborative struggled to identify a common theme, participation was limited, and leadership buy-in was not strong. This suggests that the learning collaborative model may not be appropriate in this context. Because some of the factors that limited their success are inherent (the lack of an established evidence base and agreed upon outcome and performance measures and the difficulty of carrying out rapid Plan-Do-Study-Act (PDSA) cycles and measuring the results), this suggests that the learning collaborative model may not be appropriate in this context.

Keywords

Emergency preparedness, learning collaboratives, quality improvement

Cover Page Footnote

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Introduction

The U.S. National Health Security Strategy calls for the development and wide-spread implementation of quality improvement (QI) tools in public health emergency preparedness (PHEP), including the development of “learning collaboratives,” a structured way for organizations with common interests to close the gap between potential and practice by learning from each other. To test this approach, we developed and assessed separate learning collaboratives focused on PHEP emergency communications and on the use of Medical Reserve Corps (MRC) volunteers. Although participants carried out improvement projects that they felt were useful, each collaborative struggled to identify a common theme, participation was limited and sporadic, and leadership buy-in was not strong. These factors, plus inherent issues such as limitations in the evidence base, lack of agreed upon outcome and performance measures, and difficulty of carrying out rapid Plan-Do-Study-Act (PDSA) cycles for relatively rare events), suggests caution in applying the learning collaborative mode in this context.

Methods

We developed and evaluated two learning collaboratives. One focused on notification and information sharing during health emergencies and the second on MRC deployments in flu clinics. As detailed in Table 1, following an exploratory initial meetings, teams proceeded through a series of learning sessions and “rapid cycle” action periods. In each cycle, the teams were expected to decide on process improvements, make the changes and monitor the results, and compare their experience with other collaborative members. We originally followed the IHI “Breakthrough Series” (BTS) model,¹ but because the scientific literature and faculty expertise on the issues that the collaboratives had identified were limited, we changed to an “Idealized Design” approach.² In April and May, 2012 participants were contacted by e-mail or telephone to provide feedback on their experience with the collaborative.

Results

As detailed in Table 2, participants of both learning collaboratives generally expressed satisfaction with their experience and members of both groups were satisfied with the collaboratives’ accomplishments. Participants particularly appreciated the opportunity to collaborate with colleagues doing the same kind of work in an open dialog.

However, the number of organizations that joined the collaboratives was limited, and single individuals rather than teams represented most participating organizations. And although some of the participants carried out improvement projects that they felt were useful, each collaborative struggled to identify a

common theme, only small scale improvement efforts were attempted, and many were not completed. Ultimately, the collaboratives did not seem to have materially improved public health emergency preparedness.

Implications

These results help identify the challenges that must be overcome to conduct QI activities, specifically using the learning collaborative model, in the context of public health emergency preparedness.

First, leadership buy-in and full participation is critical. Despite robust recruitment efforts, participation in our collaboratives was limited. Part of the problem was identifying organizations with similar enough interests to identify a common focus area. Even where there were similar interests, those responsible for PHEP activities tended to be low in their health department's hierarchy, and many worked part-time or had other responsibilities. As a result, although the individuals we worked with were interested and committed to the work of the collaborative, many did not have the buy-in of their leadership or the staffing capacity to test new approaches.

Second, agreed-upon, valid preparedness measures are critical. Members of the MRC collaborative focused on more limited measures of recruiting and maintaining membership lists, rather than work with two evaluation tools that had been developed and validated for MRC units deployed in flu vaccine clinics.³ Similarly, emergency communication collaborative members chose to address the challenges of maintaining contact lists and other capacities, rather than attempt to measure their ability to communicate with fidelity. Such changes are clearly necessary for an effective public health emergency response, but are not sufficient to ensure an effective emergency response. This is not a failure of the learning collaborative model *per se*, but rather reflects the current lack of scientific evidence that such activities are sufficient to ensure an effective whole system response to public health emergencies.

Finally, there must be opportunities for quantitative measurement. Because public health emergencies are rare and generally not repeated in the same manner, and because the response depends on the capabilities and context of the location where they occur, there are few opportunities to measure process and outcomes that are needed in the rapid PDSA cycles typically used in healthcare and other QI activities. The point is not that one cannot measure outcomes; rather the statistical control charts used to track progress and assess whether change packages "worked" are usually not feasible for the PHEP outcomes of interest.

If learning collaboratives are not the right QI mechanism for some PHEP settings, the challenge is finding alternatives more suited to the context. To address this challenge, we are turning our attention to developing a Critical Incident Registry (CIR) for PHEP intended to overcome shortcomings in standard

approaches to after action reports (AARs), facilitate identification and sharing of best practices, and deepen the understanding of contexts and mechanisms which determine whether PHEP practices are successful. A CIR provides a way to identify and critically analyze rare events—and responses to them—to drive learning and quality improvement. A cornerstone of aviation safety, CIRs are credited with greatly reducing the frequency of air crashes and have been adopted in other industries. Designed properly, a PHEP CIR should promote broader analysis of critical incidents to which the PHEP system responds, facilitate deeper analysis of particular incidents and stronger improvement plans, and help to support a culture of systems improvement. It may also facilitate better investment of PHEP organizations' scarce time and resources into approaches more likely to be of high value.

Summary Box

What is already known? The National Health Security Strategy calls for the development and wide-spread implementation of quality improvement (QI) tools in public health emergency preparedness (PHEP), including the development of “learning collaboratives,” a structured way for organizations with common interests to close the gap between potential and practice by learning from each other.

What is added by this report? We developed and assessed learning collaboratives focused on PHEP emergency communications and the use of Medical Reserve Corps (MRC) volunteers. Although participants carried out improvement projects that they felt were useful, each collaborative struggled to identify a common theme, participation in the meetings and conference calls was limited, and leadership buy-in was not strong.

What are the implications for public health practice and research? Because some of the factors that limited success are inherent (the lack of an established evidence base and agreed upon outcome and performance measures and the difficulty of carrying out rapid PDSA cycles and measuring the results), this suggests that the learning collaborative model may not be appropriate in this context.

Table 1. Learning collaborative activities

| | Emergency Communications | Medical Reserve Corps (MRC) |
|---|---|--|
| Membership | 4 OASPR Healthcare Facilities Partnership Program and Emergency Care Partnership Program grantees | 7 MRC units that helped develop and test a toolkit to evaluate MRC performance during flu clinics |
| Exploratory meetings | <p>Full-day in-person meeting in May 2010</p> <ul style="list-style-type: none"> ○ introduction to learning collaboratives, driver diagrams and potential performance measures ○ discussions of the organizational structure, goals, and objectives of participating organizations ○ development of change package and potential performance measures | <p>Full-day in-person meeting in June 2010</p> <ul style="list-style-type: none"> ○ introduction to learning collaboratives, driver diagrams and potential performance measures ○ development of change package and potential performance measures |
| Improvement topics | <p>Despite differences in organizational structure, goals, and objectives, collaborative members identified:</p> <ul style="list-style-type: none"> ○ improving fidelity and effectiveness of emergency communication for both situational awareness and facilitating mutual aid ○ enhancing coalitions' composition, ability to build relationships, effectiveness, durability, and sustainability | <p>Despite differences in organizational structure, goals, and objectives plus membership size and composition, collaborative members identified:</p> <ul style="list-style-type: none"> ○ performance/effectiveness of MRC units deployed at flu clinics, PODs, health fairs, or other events ○ mobilization and participation of MRC unit members at such events |
| Kick off meeting | Full-day in-person exploratory meeting in March 2011 to agree on potential areas of common interest | Full-day in-person exploratory meeting in March 2011 to agree on potential areas of common interest |
| Improvement topics for 1 st learning cycle | <ul style="list-style-type: none"> ○ Develop protocol for contact list review and update AND ○ Test protocol on one discipline group (e.g. long-term care facilities) | <ul style="list-style-type: none"> ○ Improving communication with current MRC members to maintain engagement and participation OR ○ Improving the public awareness of their MRC unit in order to encourage new members to join |
| Follow-up conference calls/webinars | April, May, June, September, and October 2011 | April, May, July, September, and October 2011 |

Table 2. Results. Note: each specific comment represents one participant's views that were broadly representative of the rest

| Summary | Specific comments |
|--|---|
| <ul style="list-style-type: none"> ○ <i>Satisfaction.</i> Participants were generally satisfied with their experience in the collaboratives | <ul style="list-style-type: none"> ○ Experience with PDSA cycles beneficial outside the work of the collaborative |
| <ul style="list-style-type: none"> ○ <i>Meetings.</i> Meetings were conducted professionally, scheduled far enough in advance to allow their full participation, and participants were kept well informed of collaborative activities if they were unable to attend a meeting | <ul style="list-style-type: none"> ○ Discussions remained focused and were useful. ○ Participants felt welcome, able to speak freely, and were respectful and willing to listen to other learning collaborative members' ideas and thoughts |
| <ul style="list-style-type: none"> ○ <i>Collaboration.</i> Participants particularly appreciated the opportunity to collaborate with colleagues doing the same kind of work in an open dialog. ○ MRC participants felt that the collaborative helped them gain a better understanding of issues other MRC units have faced, and provided opportunities for networking, improving QI skills, collaborating with other MRC units, and sharing feedback on what was most needed to make their units more successful | <ul style="list-style-type: none"> ○ “It has been very helpful to work to hear how others were solving the problem. We probably would have tried a number of different times to solve the problem before coming up with the ‘right solution.’ This helped reduce those times and let us focus.” ○ One participant reported being more inclined to foster a sharing atmosphere at state and regional MRC meetings as a result of the collaborative |
| <ul style="list-style-type: none"> ○ <i>Accomplishments.</i> Members of both groups were satisfied with the collaboratives' accomplishments ○ However, only small scale improvement efforts were attempted, and many were not completed | <ul style="list-style-type: none"> ○ The project worked on was not “flashy” but none the less very beneficial and being in the collaborative “pushed me to do it.” ○ The collaborative “satisfied a need for schedule. The problem was not brain science. But our team had been ignoring it for a while, [and] we learned that we needed to solve the problem.” ○ “The impact for my program was significant. Specifically calling all long-term care facilities increased recognition on the part of client organizations and increased the collaborative member's insights into the operation of those types of facilities. We now have 300-400 contacts for long-term care facilities ... [and] having these lists is very important during an incident.” |

| | |
|---|---|
| <ul style="list-style-type: none"> ○ <i>Participation.</i> Number of organizations that joined the collaboratives was limited (4 of 16 ASPR-funded coalitions, 7 of nearly 900 MRC units) ○ Single individual rather than team represented most participating organizations ○ Limited participation due in part to <ul style="list-style-type: none"> ▪ competing priorities ▪ lack of common priorities | <ul style="list-style-type: none"> ○ MRC coordinators had difficulties finding times to meet in person or by conference call ○ Given the number of competing priorities with their work as a MRC unit coordinator, it was sometimes difficult to prioritize the work of the collaborative. ○ Would have been an even better use of their time if the MRC learning collaborative was prioritized higher on everyone’s busy schedules ○ MRC units vary markedly in terms of size, authority, and types of membership so did not have compatible projects |
| <ul style="list-style-type: none"> ○ <i>Learning collaborative operations</i> <ul style="list-style-type: none"> ▪ Learning collaboratives lacked a clear mission ▪ Some MRC coordinators felt that others did not actively participate because they were uncomfortable with other participants on the call ▪ Relationship between the collaboratives and the larger emergency preparedness research project that sponsored them was not clear | <ul style="list-style-type: none"> ○ MRC collaborative began with a discussion about flu clinics and then lost focus and drifted to many other issues ○ Building in performance measures and continuing with more PDSA cycles would have been helpful ○ certain participants dominated the conversations and were more interested in stating their accomplishments as an MRC unit than contributing to the shared learning of the group ○ The collaborative should have met on a more frequent basis to encourage participants to build relationships with their colleagues and to build a sense of community. ○ “It was not clear who all the people were – there were about 5 people who were operational, the rest were academics, or researchers. There were lots of different organizers.” ○ Discussions were too academic and theoretical, which clashed with participants more practical view of what it is like to develop response communication capacity and to coordinate volunteers |
| <ul style="list-style-type: none"> ○ <i>Conceptual issues</i> <ul style="list-style-type: none"> ▪ QI concepts were too new | <ul style="list-style-type: none"> ○ “We were cramming a lesson of new stuff in a short period of time. If you came from that ‘systems improvement’ background, it would have clicked.” |

References

1. Institute for Healthcare Improvement (IHI). The Breakthrough Series: IHI's collaborative model for achieving breakthrough improvement. IHI Innovation Series White Paper. 2003.
2. Moen R. A guide for idealized design. The Institute for Healthcare Improvement. 2002.
3. Savoia E, Massin-Short S, Higdon MA, Tallon L, Matechi E, Stoto MA. A toolkit to assess Medical Reserve Corps Units' performance. *Disaster Med Public Health Prep.* 2010;4:1-7.
4. Dilley JA, Bekemeier B, Harris JR. Quality improvement interventions in public health systems: a systematic review. *Am J Prev Med.* 2012;42 Suppl S58-71.
5. Joly BM, Booth M, Shaler G, Conway A. Quality improvement learning collaboratives in public health: findings from a multisite case study. *J Public Health Manag Pract.* 2012;18:87-94.