Multidisciplinary top management teamwork: Effects on local health department performance.

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Abstract:

Local health departments often use multidisciplinary top management teams (TMTs) to organize the work of the agency. The purpose of this study was to examine the use of TMTs in North Carolina local health departments and how TMTs use affected agency performance. TMT diversity and TMT performance positively affected the local health departments' (LHDs) performance. As well, the TMTs' agenda affected LHD performance. The more that TMTs discussed community health assessment and political changes in the community, the better the LHD performance on the core functions. Implications for public health practice and leadership in local health departments are discussed.

Keywords: leadership | performance | public health agencies | top management teams | management | health departments | health management | public health

Article:

Recent national policy efforts have focused on the extent to which the public health infrastructure is adequate to handle the complex problems faced by local public health agencies (LHDs).1.2 Effective handling of these problems calls for an infrastructure that can support agency actions to adequately understand the problem and to communicate and work with multiple community partners to develop and implement programs, policies, and services that responsibly and humanely protect and promote the community's health. While efforts at many levels are necessary, public health leaders are also called to take a new approach to management and leadership-an approach that nourishes and uses the talents of many organizational members, focusing on internal and external collaboration rather than more traditional "command and control" approaches to public health management.[1-3]

Multidivisional, multidisciplinary top management teams (TMTs), which bring together agency division directors to oversee the LHDs' direction and work, are one way to structure broad participation within LHDs. For several reasons, TMTs might enhance the local public health infrastructure and help LHDs address complex, non-routine problems such as those found in public health. First, TMTs combine individuals with different, relevant expertise and perspectives needed to address public health problems.1 ·4 ·5 Second, TMTs may promote agency creativity because individuals must work at the boundaries between their disciplinary frameworks, a process that has been shown to facilitate novel solutions to complex problems.s-8 Third, TMTs may foster regular communication among the divisions and thus enable each to understand the priorities and build on the work of the others.4.9 Fourth, TMTs may enhance the agency's absorptive capacity, or its ability to recognize the value of new, external information, take it in, and use it to address public health and agency issues.10 - 11 Fifth, TMTs may help LHDs by strengthening their capacity to form and sustain more productive external relationships.12 In part, this is because team members can share their knowledge of external organizations and their potential as partners. Finally, TMTs may expose more organizational leaders to scientific training in public health. As the size of the TMT increases, the likelihood of including at least one member with formal public health training increases. This is needed because a national study found that more than 78 percent of LHD chief executives had no formal public health training.13 In sum, although it seems that TMTs could have a powerful impact on the performance of local health agencies, little, if any, research has examined LHDs' use of TMTs and their effects. Public health leadership is a national priority.14 But, what type of leadership at the local level is most effective? The current research investigates the use of a TMT as a way of enhancing local health department leadership capacity.

Whether a TMT's potential advantages to its local health agency can be realized is probably affected by both how effectively its members work together and the agenda it pursues. What a TMT talks about-the agenda-is one way that agency priorities are jointly understood and subsequently can be communicated to the entire LHD.15 To increase agency effectiveness, it is important that TMTs address the implementation of the core functions as well as cutting edge public health issues (e.g., financing).

While disciplinary, divisional, and cognitive diversity may be helpful in TMTs, disagreements or conflicts may result from divisional or disciplinary differences, their priorities, and possible competition for resources.16 If recognized and expressed, task conflicts (or conflicts about ideas) may help the team get out more issues and ideas, examine and evaluate them more thoroughly and effectively, make higher quality (and sometimes more creative) decisions, and provide better customer service.1s-19 The benefits of a diverse TMT may disappear, however, if disagreements become extensive and degenerate into relational conflicts. Relational conflict typically causes team members to feel threatened; it diminishes their ability to process complex information20 and it often results in less effective teamwork and suboptimal products. 21 Relational conflict may also divert members from discussing and resolving substantive differences.22 Thus, if TMT

members are able to disagree over tasks, but keep relationship disagreement to a minimum, the team's performance is likely to be enhanced.19-22

The current study was conducted to explore the effects of multidisciplinary TMT use on agency performance. North Carolina LHDs' use of TMTs and how TMT use affected agency performance were examined. Specifically, the issues on the TMT agenda, TMT diversity, TMT conflict, and performance and how these factors affected LHDs' performance and inter-organizational work were examined.

METHOD

Procedure

Confidential questionnaires were mailed to directors of all 87 local public health agencies in North Carolina in 1996. Using Dillman's23 mail survey method that included a confidential survey, a reminder postcard, and a second mailing of the survey if necessary, 63 local health directors completed and returned the questionnaire for a response rate of 69 percent. Five of the LHDs represented multiple counties; the other 58 were single county departments. Forty percent were from jurisdictions of less than 50,000 people, 28 percent were from jurisdictions of 50,000 to 99,999, and 32 percent were from jurisdictions of 100,000 or more. Directors reported their disciplinary training as public health (57%), nursing (23%), medicine (12%), environmental sciences (9%), business/public administration (37%), and other (19%).

Measures

Top management teams. Directors were asked if they had a multidisciplinary TMT, its tenure, how often it met, and which LHD disciplines/divisions were represented on the team. TMT diversity was measured as a count of the disciplines on the team (mean= 6.7, range= 3 to 11, s.d. = 2.42).

Content of team discussions. Health directors reported how much time over the past six months that the TMT spent discussing the core functions (as described by the ten public health practices)24 and critical events of the 1980s and 1990s.25 These events included managed care and integrated service delivery, changes in funding sources for public health services, pressures for privatization, the health status gap between disadvantaged and other Americans, and emerging diseases.1·2·25-28

Disagreement. Health directors reported on the frequency of relationship and task disagreements in the TMT on a 5-point Likert scale, where 1 = none to 5 = a whole lot, using Jehn's task and relationship conflict measures.ZZ Relationship disagreement items included the following:

- How much friction is there among members in yourTMT?
- How much are personality conflicts evident in yourTMT?
- How much tension is there among members in your top management team?

• How much emotional conflict is there among members in your TMT?

Task disagreement items included the following:

- How often do people in your TMT disagree about opinions regarding the work being done?
- How frequently are there conflicts about ideas in your TMT?
- How much conflict about the work you do is there in your TMT?
- To what extent are there differences of opinion in your TMT?

A factor analysis of the eight items revealed two factors whose items were averaged to form two scales with alphas of .85 (task) and .93 (relationship).

Team performance. Health directors rated the top management team on a 5-point Likert scale ranging from 1 = very low to 5 = very high using items derived from the team literature: the efficiency of team outcomes; the quality of the work produced; the number of new ideas or innovations introduced by the team; their adherence to schedules; their reputation for work excellence; their ability to adhere to common goals; their adaptability to changes; their overall technical performance; the value of their work to the LHD; the effectiveness of their plans, programs, and procedures; the innovativeness of their plans, programs, and procedures; and their ability to set common goals.9 ·18·29 -30 The factor analysis revealed one factor whose items were averaged to form a scale with an alpha of .92.

Extensiveness and productivity of interactions with other organizations were measured by 5-point Likert scales where directors were asked about their departments' interactions with federal, state, and local government agencies, nonprofit agencies, hospitals, private clinics, community and migrant health centers, universities, community members, citizens' groups, boards of health, and schools. Items for extensiveness and productivity were averaged to form two scales with coefficient alphas of .89 and .88.

Agency performance. On a 5-point scale, directors rated how adequately their LHD accomplished the following four actions found by Miller and his colleagues, 31·32 in a screening survey, to accurately predict health department performance on the core functions:

1. In the past three years in your jurisdiction, have there been age-specific surveys to assess participation in prevention and screening services?

2. In the past year, has there been a formal attempt to inform candidates for elective office about health priorities for your jurisdiction?

3. In the past year in your jurisdiction, has a community health action plan developed with public participation been used?

4. In this past year in your jurisdiction, has there been any evaluation of the effect that public health services have on community health?

Average performance was calculated as a decimal portion of a perfect score (1.0). Scores could range from 0 to 1.0 with higher scores indicating better performance. Although based on the directors' self-reports, this scale asks about specific actions rather than asking the rater to make global assessments; thus, the likelihood of common method variance is decreased.33 Also, it has been standardized and validated. 32 Performance on the core functions, however, has not been linked with an increase in community health status.

Control variables. Because jurisdiction size, team tenure (i.e., the length of time the team has existed), and how frequently the team meets are expected to directly impact the outcome variables (TMT performance or LHD performance), these variables were included in all initial regression analyses. The inclusion of these variables did not change the direction or the significance of the results but did decrease the degrees of freedom in the models; therefore, they were omitted from the results reported below. In multiple regression analyses where the control variables were the only predictors, team tenure had a significant positive effect on TMT, but not agency, performance such that the longer that the team existed, the higher the performance (beta = .28, $p < .05$). Seven percent of the TMTs had been in existence six months or less, 7 percent had met for 7-12 months, 3 percent had met for 13-24 months, 13 percent had met for 25-36 months, and 70 percent had met for greater than three years. Jurisdiction size and meeting frequency were not significantly associated with agency or TMT performance in these analyses.

Analytic strategy and issues

To decrease the likelihood of common method variance among the variables in the models, the dependent variable (performance) was placed after the independent variables in the questionnaire. 32 The data were analyzed using descriptive statistics, analysis of variance (ANOVA), and ordinary least squares (OLS) multiple regression analyses.

Results

Eighty-nine percent of the LHDs used a multidisciplinary/multidivisional TMT. The following disciplines were represented: nursing (95% ofTMTs), administration (93%), environmental health (91 %), nutrition (80%), finance (75%), health education (69%), personnel (69%), social work (26%), dentistry (25%), medicine (23%), and biostatistics/epidemiology (12%). Local health departments with TMTs performed significantly better than those without TMTs ($F(1,62) = 3.64$, $p < .06$) and the more often frequently the TMT met, the better the agency performance (beta = .24, $p \sim .06$). Thirty-six percent of the teams met at least weekly; 55 percent met monthly, and 10 percent met quarterly or less frequently.

What was on the agenda of North Carolina's local health departments' TMTs and what mattered for LHD performance? As shown in Table 1, health directors reported that TMTs spent much or

very much time talking about the following: managed care (60% of TMTs), specific health issues (48%), addressing the needs of the medically under- or uninsured (43%), administrative requirements (42%), and privatization of local public health agency functions and services (40%). Fewer TMTs spent much or very much time talking about the following: economic changes (7% of TMTs), reorganization of the state health department (13%), community health needs assessment (17%), and changes in the political leadership of the community (18%). Some issues were not discussed by some departments including the following: reorganization of the state health department (20% ofTMTs did not discuss this), changes in political leadership (20%), funding (13%), privatization (10%), and demographic changes in the community (10%).

What matters for LHD performance is suggested by the bivariate correlations between frequency of issue discussion and agency performance (shown in Table 1). LHD performance was better the more frequently TMTs discussed assessment (r =.56), addressing the needs of the uninsured and indigent (r =.51), assurance (r = .43), policy development (r = .38), managed care (r = .35), political changes in the community (r = .33), and various health issues (r = .26). To test the relative importance of these topics, an exploratory multiple regression analysis was done in which LHD performance was regressed simultaneously on jurisdiction census and the issues listed in Table 1. Together, these discussions explained 34 percent of the variance in LHD performance and only discussions about assessment and political changes in the community were significantly positively associated with agency performance (beta= .46 $p < .01$, and beta= .32, $p < .04$, respectively; $F = 3.30$, $p < .001$, $R2 = .48$, Adjusted $R2 = .34$).

Table 1 is omitted from this formatted document.

Table 1 also allows a comparison of issues that were both important (i.e., positively and significantly associated with performance) and that a higher proportion of TMTs spent much time discussing. These were managed care, addressing the needs of the uninsured or indigent, demographic changes in the community, and policy development. Assessment and changes in political leadership were most important (in the multiple regression analysis) but discussed frequently by only a small proportion of the TMTs (17% and 18%, respectively). Further, a high proportion of TMTs spent much time discussing administrative requirements (42%); these discussions were not associated with performance.

How do TMT characteristics and behaviors affect TMT performance, interorganizational collaboration, and agency performance? Regression analyses using TMT diversity to predict task and relationship disagreement were not significant. Thus, counter to expectations, TMT diversity did not affect the amount of task and relationship disagreement. The results of the multiple regression analyses investigating top management predictors ofTMT performance, agency performance, and interorganizational collaboration are shown in Table 2. As shown in the first equation, relationship, but not task, disagreement had a significant negative effect on TMT performance. TMT diversity had a marginally positive effect on TMT performance. Together, these measures explained 35 percent of the variance in TMT performance. Next, TMT effects on

interorganizational collaboration (i.e., extensiveness and productivity of interactions) were explored. TMT performance had a positive effect on the extensiveness of LHD interactions with other organizations. Although the betas for both relational conflict and TMT performance were significantly positive, the overall equation predicting productivity of LHD interactions in the community was marginally significant.

Finally, TMT effects on agency performance were explored. As shown in equation four, TMT diversity had a significant positive effect on LHD performance but neither type of disagreement was related to overall LHD performance. In the fifth equation, diversity, disagreement, and TMT performance were used to predict LHD performance. TMT performance had a significant positive effect on LHD performance, and the effect of TMT diversity was positive, but marginal. Together these explained 23 percent of the variance in LHD performance. As well, the addition of TMT performance resulted in a significant increase in the variance in LHD performance explained over that of the previous equation.

Discussion and Implications for Practice

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Based on the study's findings, there are five implications for agency practice.

1. Health directors can strengthen the performance of their LHD through frequent meetings of a multidisciplinary TMT.

2. Having a diverse team helps both agency and team performance.

3. LHDs with effective TMTs are more likely to have more extensive interactions with others in the community.

4. Addressing TMT conflict effectively is likely to help team performance and, indirectly, agency performance.

5. TMT agenda as well as process is important.

However, the issues on the TMT agenda found to be most predictive of LHD performance were not the issues frequently discussed by the most LHDs. Next, these conclusions will be discussed.

Not only did LHDs with TMTs perform better than those without TMTs, when controlling for jurisdiction size, the more frequently that the TMT met, the better was the agency's performance. Increased participation in leadership and decision making, through a TMT, may help an agency through several mechanisms; it may generate increased commitment to decision making, accomplish high-level problem solving that would not have otherwise been possible, or increase members' skills and thus the agency's capacity.

Clues to what makes a TMT effective also emerge from the data. Importantly, the more diverse the TMT was, the greater the team and organizational performance. This suggests-at a minimum-that greater expertise was brought to the complexity of public health issues. TMTs' performance was also affected negatively by their relationship conflict. In regard to task disagreement, recent work has shown that when organization norms promote the open expression of conflict and when a clear shared goal exists, disagreement can have a positive effect on team performance. 34 A clue that, over time, TMTs can develop ways to have productive task conflict was shown in the bivariate correlations among study variables. Team tenure, which had a positive effect on TMT effectiveness ($r = .30$), was positively associated with task disagreement ($r = .25$) but not associated with relational disagreement. This suggests that as teams work together longer, they learn to have task conflict without triggering relational conflict. Health directors might reduce relational conflict by assuming that a substantive, task-based issue is behind it and working to uncover it. Individuals often become frustrated and contentious when they feel that their concerns are not being heard. Exploring underlying concerns may reduce the frustration and surface the substantive issues that-if dealt with-may lead to better departmental performance. This is particularly important in teams where individuals from different disciplines may have different understandings of the same words.35 Disagreement, well-handled, can help team members bridge their differences.5

In addition to affecting LHD performance directly, the more effective the TMT, the more extensive the agency's interactions with other organizations in the community and the better the agency performance was. These findings are particularly important in an era when LHDs are called to collaborate with many different organizations36 and are consistent with previous work suggesting that organizations with strong intraorganizational links are more able to form external linkages. 12 A possible competing explanation for these findings is that LHD directors are only more aware of interorganizational linkages when this information is transmitted in the context of a TMT.

The data in Table 1 reveal how frequently TMTs are discussing specific issues representing either the core public health functions or critical public health issues. That agencies were spending time discussing important issues is encouraging. However, more time probably needs to be spent on the two issues linked to agency performance in the correlation and regression analyses (i.e., community health needs assessment and changes in the political leadership). In contrast, 42 percent of LHDs spent much time in TMT meetings on administrative requirements; these discussions were not associated with LHD performance. Whereas some administrative issues need to be discussed in TMT meetings, directors might enhance TMT effectiveness by using memos or electronic mail to address routine, informational items. Then, for the bulk of their time together, TMT members could tackle substantive public health issues. Such an intervention would enhance the informational capacity of the TMT and could potentially lead to a better agencywide grasp of the LHD's public health agenda. Study Limitations and Suggestions for Future Research

The data for this study were cross-sectional, and the conclusions about causality are only suggestive. For example, whereas TMT use was associated with agency performance, it is possible that unidentified factors led both to the use of TMTs and increased agency performance, rather than TMT use leading to agency performance. The presence of a strong health director might be one such factor. There are two reasons, however, that TMT use and TMT effectiveness are likely to still be important for LHD performance. First, in terms of causal order, it is not likely that LHDs performed well, then implemented the use of TMTs. Second, that TMT performance explained significantly more variance in LHD performance than TMT use alone suggests that both are possible component causes of the quality of LHD performance. Thus, future research should investigate other factors leading to LHD performance and to test the observed relationships in longitudinal studies,37 with path analysis techniques and with data from multiple sources.

Future studies should also consider the effectiveness of TMTs from the perspectives of other organizational members not on the top management team. Previous work has shown that the perspectives of other organizational members on the LHDs' performance on the core functions differs from that of the top managers. 38 Future studies should also use objective, rather than perceptual, measures-to the extent possible-of performance. Whereas it may be difficult to obtain agreement about what would be an objective measure of a TMT's performance, current efforts to establish a National Public Health Performance Standards Program should result in agreed-on performance standards for local agencies.39 Health outcomes are another way that local performance should be evaluated. Given that health problems are multicausal and many of the actions required for an improvement in health status (e.g., a decrease in wealth disparity) are considered outside the domain of LHDs, such an approach needs much development.

In summary, this study looks at the TMT as a local agency intervention to enhance informational and human resource aspects of the public health infrastructure. When effective, such teams enhance agency performance and are associated with more extensive interactions outside the agency. A microcosm of what can happen between the health department and other organizations exists in the top management team. Because TMT members may also bring different values than each other to the discussion of community health issues, they may be especially helpful in interpreting outsiders' agendas to the agency. Thus, as local health agencies engage in conversations regarding their own interdepartmental and disciplinary differences in expertise and values, they gain experience and skill that may enable them to bring together diverse community stakeholders to improve the community's health.

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