Quality Improvement Brief

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Priority-setting in Public Health

PUBLIC HEALTH SCIENCE TEAM

Public health faces the challenge of unlimited opportunities to do good work. Public health departments and workers are eager to apply the diverse skills and competencies that they have nurtured and sharpened over time. This fervor for meaningful service is met with continuous invitations and encouragements to expend effort in support of a wide array of goals advocated by a broad range of stakeholders. Unfortunately, the enterprise of public health has limited resources at its disposal. As a result, public health departments and workers must choose among the numerous opportunities available to them. Herein lies the challenge to prioritize among these options and to select the work that will have the greatest impact on improving the public's health.

Awareness of the importance of deliberate decision-making in matters of prioritization is the first step in fulfilling public health's responsibility to account for the use of limited resources. Effective prioritization requires discipline on the part of decision-makers to refrain from premature commitment of resources as well as a willingness to use tools and processes that lead to informed, responsible decisions. Effective local health departments recognize "prioritization" as a key competency and employ various strategies to assure that decisions affecting resource allocation are made in a deliberate, transparent process. Some strategies may be formal and rely on the assistance of outside consultants, as is often the case in strategic planning processes. Other, less formal strategies are more common and usually rely on the skill and experience of managers who may need to make decisions quickly based on limited information.

Key Findings

- Priority-setting is a key competency of all local health departments
- Effective prioritization requires awareness, discipline, and a preconceived approach of how decisions will be made
- Prioritization decisions must consider a wide range of criteria including the importance of the public health issue and the effectiveness and feasibility of interventions

Regardless of the formality of the process by which decisions are made, a lack of awareness of the need to use effective prioritization methods may yield decisions that are arbitrary and allow methods of resource allocation that are vulnerable to expediency, political influence or unethical intentions (Baltussen & Niessen, 2006; Michaelis, 2002). To assure a consistent approach to prioriti-

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zation, prescribed tools or methods can help both the large organization as well as individual workers to select work that is justifiable and accountable to a wide range of stakeholders. In this article, we provide a brief overview of prioritization in public health practice, to include a brief discussion of the levels of accountability as well as methods and criteria. Thereafter, we present a set of tools that can be used by public health workers to perform prioritization when the need for this arises.

Accountability at Three Levels

The need for effective prioritization is linked to public accountability at three distinct levels. First, public health organizations are accountable to focus resources on health issues that are of greatest importance to the community. Second, public health officials must apply those resources to support strategies and interventions that are effective and acceptable to the community. Third, at a deeper level of public accountability, public health departments must dedicate some resources to evaluate work performed, so as to demonstrate that work is performed well (i.e., with acceptable "quality"). It is important to emphasize that even work that is done well (level 3) will not be viewed favorably by outside stakeholders if they believe a different issue (level 1) or alternate interventions (level 2) are of greater value. Hence, decision-makers must keep all of these levels in mind as choices are made about how to expend scarce resources.

Methods of Priority-setting

There are many methods of priority-setting. Some are more prescriptive than others. The use of a multi-criteria approach provides the best framework to ensure that key factors are not overlooked and that decisions are made rationally and ethically. Numerous criteria have been offered as a guide to priority-setting in public health practice (Jamison, 2002; Musgrove & Fox, 2006; NPHSP, 2006). Most methods provide for explicit recognition of the trade-offs between various criteria and involve a weighting or ranking that reflects the relative importance of the criteria against each other (Minnesota Department of Health, Office of Public Health Practice, 2008). A key issue in this area is who decides which criteria are included and how the various criteria are to be weighted. Priority-setting criteria are commonly grouped into the following categories: effectiveness, impact on systems or health, feasibility, size of population affected, resources, support or acceptability, seriousness, and whether or not problem prevention, mitigation or resolution is within the control of the public health team (US DHHS, CDC, 2007).

Setting the Criteria

Table 1 provides an extensive list of criteria that can be considered by decision-makers. While not exhaustive, this list includes most criteria that have been reported by others (NPHSP, 2006; US DHHS Secretary's Advisory Committee on Health Promotion and Disease Prevention Objectives for 2020, 2008; Simoes, Land, Metzger, & Mokdad, 2006). Contextual factors have been included as a means to formally recognize interests that may be decisive. On the basis of our review, criteria can be grouped into four categories. These categories capture key factors concerning the allocation of scarce resources, as follows:

A) Magnitude of the Issue (Quantitative),
B) Importance of the Issue (Qualitative),
C) Effectiveness of Interventions, and
D) Feasibility of Implementation of Interventions.

When selecting criteria for priority-setting, an initial distinction is usually needed as to whether the task is to prioritize a group of potential public health issues or whether it is to prioritize a group of strategies or interventions to address an already established, single public health issue. Prioritization of issues will need to consider criteria from all four categories; whereas, selecting interventions to address a particular issue will need to consider categories C and D only.

Prioritization Tools

Tables 2, 3 and 4 provide a framework for developing prioritization tools for these two distinct applications. Tables 2 and 3 are used together to prioritize public health issues and allows for the prioritization of five (listed as I through V on the tables) distinct public health issues. Table 4 is used alone to prioritize interventions for a single public health issue.

In most situations where the goal is to prioritize public health issues, the matrices provided in both Tables 2 and 3 will be needed. Table 2 provides an approach to compare individual and "average" criterion scores for each public health issue. Because each public health issue usually has more than one intervention that can be considered, values placed in the cells in Categories C and D in Table 2 must be reflect an "average" score for the set of interventions related to the specific issue. Average scores are usually best derived by completing a separate analysis for each public health issue using Table 3. In this approach, Table 3 is used in multiple iterations, with each iteration listing interventions for just one public health issue and averaging scores for that group of interventions. For example, for a particular public health issue in which three interventions are considered, and for which the intervention-specific scores are "+", "++", and "+++" (note approaches to scoring are discussed in the next section), respectively, then a reasonable average score for these interventions would be "++". This average score should be entered in the last column on Table 3. The set of average scores for each Table 3 analysis for Categories C and D are then directly copied into the appropriate issue-specific column in the Table 2.

While Tables 3 and 4 are very similar in appearance, Table 4 is used for a very different purpose. It is designed to prioritize interventions for a single public health issue. Similar to Table 3, each criteria is scored for each intervention, however average scoring is completed for each intervention within each column in each Category, and then an overall score across Categories C and D is determined for each intervention. This overall score is indicated in the final row of the Table.

While all the elements listed in Table 1 are included in Tables 2 through 4, in specific applications, many of the elements will not be used; these can simply be "lined out" or de-selected by putting "N/A" (for "Not Applicable") in the scoring column. A blank row titled "Other" is provided at the end of each category for users to include additional criteria. Once the set of criteria has been selected, a method of scoring must be chosen. The method of scoring will depend upon the particular application as well as upon the preferences of the person or group of persons that will be doing the scoring. A variety of approaches can be considered. For example, scores could be as simple as "High", "Medium", or "Low" or ranked from 1 to 10. Others may want to score by assigning 1, 2 or 3 plusses ("+", "++", or "+++"). The exact method of scoring is not important. However, the method must be acceptable to the users, applicable to the type of information that is available, and provide an adequate range of results to allow clear distinction of "best" from "worst" options. To allow for aggregation of individual scores, a space is included at the bottom of each column for a category table for an overall score or ranking within the category, as well as a final row at the bottom of each table to summarize the score/ranking for all categories. As with choosing criteria and the method of scoring, prior planning is required to anticipate how category-specific and overall scoring will be determined.

Of course, use of the tools does not usually result in an automatic decision. Careful review and analysis of the average scores is needed to assure that the results are meaningful and valid. In many instances, users of the tools will discover that the set of criteria or scoring approach are insufficient and may need to be revised. It

may, in fact, take several iterations to complete a prioritization analysis that is acceptable to all who are participating in the process. Often times, the discussions that lead to revisions and selection of a final analysis provide significant insight into the most important criteria that need to be considered in the final prioritization.

Summary

Priority-setting is a key competency of all public health departments. Effective prioritization requires awareness of the importance of deliberate decision-making as well as discipline to refrain from premature resource allocation. Prioritization is best accomplished through an analysis of pre-established criteria that consider not only the importance of the public health issue (quantitative and qualitative aspects), but also the effectiveness and feasibility of potential interventions. Ultimately, competent prioritization improves public accountability in the use of scarce resources and provides the greatest opportunity for a high return on investments that will improve the public's health.

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Table 1 Categories and Examples of Criteria for Setting Priorities in Public Health Practice

Category A – Magnitude of the Public Health Issue (Quantitative)

1. Percent of population at risk
2. Mortality rate, premature death rate, prevalence, incidence, DALYs*, QALYs, YPLL, or other measure of the impact of the issue on the population
3. Magnitude of measure disparity (#2) between various groups (e.g., county versus other county, state, or federal comparisons; intra-county comparisons between various groups)
4. Economic burden on the population

Category B – Other Factors Related to the Importance of the Public Health Issue (Qualitative)

1. A health inequity exists for the issue
2. Alignment with national, state or local health objectives, including organizational strategic goals
3. Public health has a clearly established role to address the issue
4. Extent of public concern on the issue
5. Level of support from community members and other stakeholders
6. Work on this issue is "mandated" by statute or other authority
7. Legal or ethical concerns related to the issue
8. Linkage to an environmental concern, including safety

Category C – Effectiveness of Interventions

1. Interventions have been applied successfully in practice
2. Level of evidence supporting the interventions
3. Other rationale for use of interventions
4. Preventability of the issue or condition
5. Extent to which interventions will mitigate root causes

Category D – Feasibility of Implementation of Interventions

1. Cost-effectiveness of the interventions
2. Interventions are culturally appropriate and acceptable to community members
3. Size of the gap between community resources currently addressing the issue and the need
4. Resources needed are available
5. Timeliness of implementation and expected benefits
6. Ease of implementation
7. Within the control of public health to implement
8. Ease and likelihood of maintenance of effort
9. Legal or ethical concerns that may arise as a result of the intervention

* DALY— Disability-adjusted life year, QALY—Quality-adjusted life year, YPLL—Years of Potential Life Lost

Table 2 Prioritization of Public Health Issues

Note: Use this table in conjunction with Table 3 to prioritize different public health issues.

Criteria	PUBLIC HEALTH ISSUE				
CATEGORY A – Magnitude of the Public Health Issue (Quantitative)	I	II	III	IV	V
Percent of population at risk					
Mortality rate, premature death rate, prevalence, incidence, DALYs, QALYs, YPLL, or other measure					
Magnitude of measure disparity (#2) between various groups (e.g., LA versus US, CA, or other counties; groups within LA County)					
Economic burden of the population					
OTHER:					
OVERALL SCORE or RANK IN THIS CATEGORY					
CATEGORY B – Other Factors Related to the Importance of the Public Health Issue (Qualitative)	I	II	III	IV	V
A health inequity exists for the issue					
Alignment with national, state, or local health objectives, including organizational strategic goals					
Public Health has a clearly established role to address the issue					
Extent of public concern on the issue					
Level of support from community members and other stakeholders					
Work on this issue is "mandated" by statute or other authority					
Legal or ethical concerns related to the issue					
Linkage to an environmental concern, including safety					
OTHER:					
OVERALL SCORE or RANK IN THIS CATEGORY					
CATEGORY C – Effectiveness of Interventions (obtain average scores for these cells from Table 3)	I	II	III	IV	V
Interventions have been applied successfully in practice					
Level of evidence supporting the interventions					
Other rationale for use of interventions					
Preventability of the issue or condition					
Extent to which interventions will mitigate root causes					
OTHER:					
OVERALL SCORE or RANK IN THIS CATEGORY					
CATEGORY D – Feasibility of Implementation of Interventions (obtain average scores from Table 3)	I	II	III	IV	V
Cost-effectiveness of the interventions					
Interventions are culturally appropriate and acceptable to community members					
Size of the gap between community resources currently addressing the issue and the need					
Resources needed are available					
Timeliness of implementation and expected benefits					
Ease of implementation					
Within the control of public health to implement					
Ease and likelihood of maintenance of effort					
Little to no legal or ethical concerns					
Little to no environmental concerns, including safety concerns					
OTHER:					
OVERALL SCORE or RANK IN THIS CATEGORY					
OVERALL SCORE or RANK					

Table 3 Average Summary of the Effectiveness and Feasibility of Interventions to Address a Public Health Issue

Note: Use this table in conjunction with Table 2 to determine the average scores for interventions being considering for different public health issues. Use a separate table for each issue being considered.

Circle the letter corresponding to the Public Health Issue (see Table 2) for which these interventions apply: I II III IV V

Criteria

CATEGORY C – Effectiveness of the Intervention	INTERVENTIONS 1	2	3	4	5	**Avg***
Intervention has been applied successfully in practice						
Level of evidence supporting the intervention						
Other rationale for use of intervention						
Preventability of the issue or condition						
Extent to which intervention will mitigate root causes						
OTHER:						
OVERALL SCORE or RANK IN THIS CATEGORY						

CATEGORY D – Feasibility of Implementation of Intervention	1	2	3	4	5	**Avg***
Cost-effectiveness of the intervention						
Intervention is culturally appropriate and acceptable to community members						
Size of the gap between community resources currently addressing the issue and the need						
Resources needed are available						
Timeliness of implementation and expected benefits						
Ease of implementation						
Within the control of public health to implement						
Ease and likelihood of maintenance of effort						
Little to no legal or ethical concerns						
Little to no environmental concerns, including safety concerns						
OTHER:						
OVERALL SCORE or RANK IN THIS CATEGORY						

Avg* - Indicate the average score for this criterion across all interventions being considered. These average scores should then be entered into the column on Table 2 corresponding to the public health issue for which these interventions are being considered.

Table 4 Prioritization of Interventions to Address a Single Public Health Issue

Note: Use this table to prioritize interventions that address a single public health issue.

Criteria

CATEGORY C – Effectiveness of Intervention	INTERVENTIONS 1	2	3	4	5
Intervention has been applied successfully in practice					
Level of evidence supporting the intervention					
Other rationale for use of intervention					
Preventability of the issue or condition					
Extent to which intervention will mitigate root causes					
OTHER:					
OVERALL SCORE or RANK IN THIS CATEGORY					

CATEGORY D – Feasibility of Implementation of Intervention	1	2	3	4	5
Cost-effectiveness of the intervention					
Intervention is culturally appropriate and acceptable to community members					
Size of the gap between community resources currently addressing the issue and the need					
Resources needed are available					
Timeliness of implementation and expected benefits					
Ease of implementation					
Within the control of public health to implement					
Ease and likelihood of maintenance of effort					
Little to no legal or ethical concerns					
Little to no environmental concerns, including safety concerns					
OTHER:					
OVERALL SCORE or RANK IN THIS CATEGORY					

OVERALL SCORE or RANK					

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