# EVALUATION OF PUBLIC HEALTH COMMUNICATION PERFORMANCE BY STUFFLEBEAM'S CIPP MODEL: A CASE STUDY OF THAILAND'S DEPARTMENT OF DISEASE CONTROL

Boonchutima, Smith
Chulalongkorn University
smith.b@chula.ac.th

Pinyopornpanich, Benjamaporn
Department of Disease Control
jama@health.moph.go.th

## *ABSTRACT*

*This research aims to determine the effectiveness of the Department of Disease Control's communication performance and recommended guidelines for improving it. Daniel Stufflebeam's CIPP model is applied as the evaluation framework. Communication planning, operating, and evaluation literature are reviewed to specify relevant factors in this field.*

*Although the researchers could not come to a conclusion as to the effectiveness of communication performance due to vague raw data, many parts of the study are very useful, providing insight on the organization's current communication performance.*

*The organization's operations are very bureaucratic, causing inflexibility as well as an unclear organizational structure. This has a negative impact on the organization's communication operation's input and processes, which urgently need to be improved. The product's performance indicators are mostly unreported and measured only once a year rather than, at least, at the end of each communication activity.*

*At the end, suggestions for improvements in essential variables are shown and could be of benefit to not only the Department of Disease Control but also other organizations facing similar situations.*

## *INTRODUCTION*

Effective communication comprises 4 steps: research – listening, planning – decision making, communication – action, and evaluation. The final step is extremely crucial since the evaluation will act as a guideline for the organization to determine whether or not its entire communication effort has met its objective(s). The information retrieved from the evaluation can be beneficial for both current and future communication projects.

The information acquired from communication evaluation assists executives by providing better understanding and familiarity with various situations, essentially, helping to prepare the executives to better handle possible problems. Nevertheless, evaluation should be concluded using diverse information. Therefore, the researchers have chosen to use the Stufflebeam's CIPP model as a guideline for evaluating the performance of Thailand's Department of Disease Control's communication efforts.

The Department of Disease Control's main mission is to control specified infectious diseases. However, to do this effectively, cooperation from various entities is required, for example, media, public health and education institutions, and other related agencies. This cooperation depends on many factors, including reliability, trust, and realization of possible benefits gained through cooperation, all of which require effective communication skills.

However, to improve the communication performance of the Department, the administration needs to have current information for reasonable decision-making. Therefore, this research aims to identify the effectiveness of the Department's communication performance to provide the suggestions to improve its communication activities.

## *LITERATURE REVIEW*

Public health communication refers to the process of notifying, educating, entertaining, and persuading target audience to be aware of, interested in, and understand the importance of specific health issues. A two-way communication is recommended so that the target audience has a chance to gain access and interact with the communication process. Furthermore, the process must have clear objectives and be planned in such way that results can be measured and evaluated (Chansawang 2003).

Evaluation is a process conducted by experts or qualified professionals to determine the value of certain information by comparing it to the given criteria. Phanom Kleechaya (2003) suggested that public relations evaluation, based on James E. Grunig's (1983) concept, be based on the measurement of five levels: communication activities, retention of message sent, acceptance of cognition, formation or change of attitude, and behavioral change.

Having received measurement data, evaluators might use benchmarking, a process of continuously analyzing information by comparing an organization's products, services, and performance against competitors' or those of leading institutions. The comparison can be classified into four categories: internal benchmarking, competitive benchmarking, functional bench marking, and generic benchmarking. In this research, internal benchmarking and functional benchmarking against the leading institutions in public health communication are applied.

Ralph W. Tyler, one of the first inventors of the evaluation project in 1949, believes a clear, concise, and specified objective is vital for the success of an evaluation. This concept's characteristic is called "Goal Attainment Model or Objectives". Robert E. Stake has integrated concepts from Lee Joseph Cronbach and Michael Scriven to create a systematical evaluation format, transforming both concepts into a more concrete structure by considering a wide array of information from different groups of individuals involved with the project being evaluated. To make a detailed project evaluation, a thorough explanation of the project is indispensable. Stake proposed a systematic evaluation model and named it "Countenance Model". This model emphasizes that evaluating a project involves two parts: 'Descriptive' and 'Judgment'.

In the early seventies, the systematic, continuous evaluation called CIPP was developed by Danial L. Stufflebeam and his colleagues. Its aim is to evaluate a project using existing information to make a decision, emphasizing distinctively separating the tasks between the evaluation and administrative departments. While the evaluation department's responsibilities are to identify, provide, and present information to the administrative department, the administrative department's responsibilities are to seek information and implement the evaluation results for actual decision-making. Stufflebeam et al (1971) separated the evaluation into four interdependent sectors: Context Evaluation: C, Input Evaluation: I, Process Evaluation: P, and Product Evaluation: P.

Furthermore, this research establishes specific indicators for each sector to help construct a conceptual framework for the CIPP communication evaluation model.

Context evaluation by Rotsachongporn Komonsewin (2005) proposed 3 areas: political, social, and technological. This research also includes organization structure, personnel motivation, organization culture, and leadership in communication efforts (Bangmo,1995; Tonson, 2001; Wongmontha, 2003).

Input evaluation includes budget and individual administration (Sanitwong Na Ayuthaya, 1996).

Process evaluation includes three processes: first, public relations process (Laphirattanakun, 2001 & Wongmonta, 2003), which consists of determining a problem, planning, scheduling the project in performance stage and evaluation stage, second, sustainable networking process (Boonyaruttanapan, et al., 2009), which consists of common interest examining stage, seminar stage, objective stage, activities stage, specific work task stage, organization stage, and network stage; and third, participatory communication process (Tansakun, et al., 2003), comprising research, problem analysis, planning, implementation, and evaluation.

Product evaluation comprises five dimensions: 1) performed tasks 2) quantity and quality of tasks 3) target audience's change in affection and cognition 4) target audience's behavioral change, and 5) organization's benefits (Panom Kleechaya, 1999).

This research's conceptual framework emphasizes the Department of Disease Control's communication performance evaluation by the Ministry of Public Health using the CIPP model. The evaluation is based on public relations efforts with four essential factors: context evaluation, input evaluation, process evaluation, and product evaluation. The figure below illustrates each area's conceptual framework and communication effectiveness. See Figure 1.

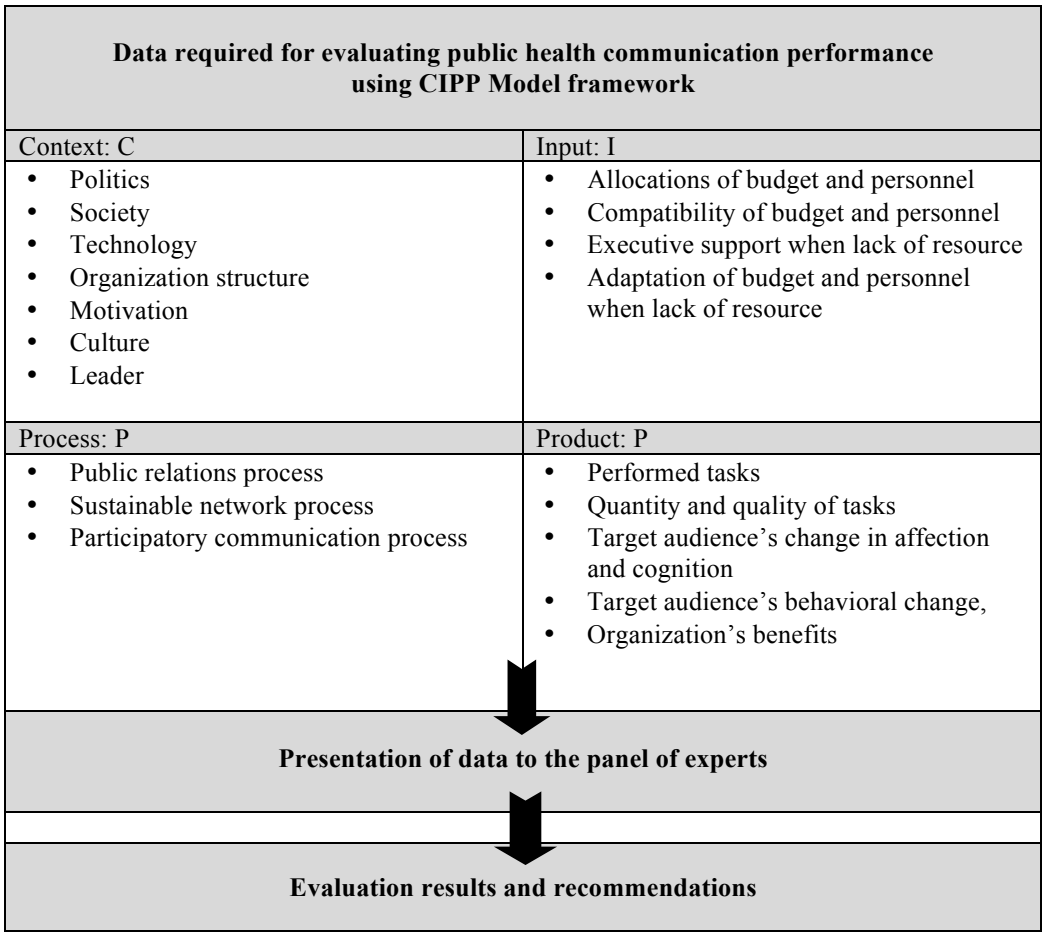

FIGURE 1: The Department of Disease Control's public health communication performance evaluation using CIPP model

## METHODOLOGY

This research evaluated six months of work process, from February to July 2010, focusing only on the performance of representatives from the Department of Disease Control responsible for public health communication. Using qualitative research methodology requires two main sources of information: secondary information retrieved from evaluating the annual report provided by the Information Dissemination and Evaluation Bureau and the department's criteria indicator report and primary information retrieved from in-depth interviews of various bureau's administrative and public health communication officers.

With twenty divisions' representatives completing the questionnaire, the researchers selected participants who volunteered and had the ability to provide requested data. The selected representatives came from the Offices of Disease Prevention and Control (DPC) 1 (Bangkok), 3 (Chonburi), 4 (Ratchburi), 7 (Ubonratchthani), 11 (Nakornsithammarat), Bureau of Dissemination and Public Relations, Bureau of General Communicable Diseases, Bureau of Vector-borne Diseases, and Bureau of AIDS, TB and STIs.

Following the interview sessions, researchers transcribed the recordings and analyzed the answers.. To prevent researchers' subjectivity and personal opinion, researchers arranged an expert panel consisting of the head of the Public Relations Department, and Graduate Program Chairperson, both of the Faculty of Communication Arts, Chulalongkorn University, as well as the Communication Manager of Siam Cement Plc. to evaluate the data presentation and question researchers and three Department of Disease Control representatives about the process of retrieving data. The experts would then evaluate the communication performance and then provide advice on how to improve performance.

## RESULTS

In each CIPP section, the results include secondary data, executive interviews, officer interviews, evaluation results, and suggestions from the expert panel.

The results obtained showed that the Department of Disease Control consists of various micro organizations such as a center, divisions, bureaus, institutes, and groups. Information dissemination and public relations are not established by ministerial regulations but certainly play an important role in the department's communication activities. Because of overwhelming responsibilities and duties, the officers have to hire communication suppliers. Officers, such as public health technical officers and registered nurses assigned to work in communication, perceive that they are unable to further their careers. Moreover, some executive interviewees revealed that there are no clear job descriptions for anyone in the office to perform communication activities. Even though there is an assigned communication team, only a few officers actually complete the tasks. It usually involves volunteering or the officer's personal interest or expertise in a given area.

Interview results reveal that public health communication executives and officers feel that external factors, including social, technological and political, have tremendous influence on public relations efforts, especially those in the central department where political influence has both a negative and positive on work performance. The positive is that the media and the public give attention to the topics that influential politicians bring up, but the downside is that sometimes these topics are not the actual cause of health problems or have less priority.

Research results for culture and leadership characteristics from public relations officers' interviews reveal that representatives' culture usually focuses on teamwork; in other words, they value team

orientation, respect each other's ability, and facilitate each other. On the other hand, some representatives emphasize quality work and services. It was also found that leaders' characteristics from the central government bureau are goal-oriented, while regional bureau leaders are more supportive.

Table 1 illustrates that politics, society, and technology have tremendous impact on communication efforts. Only a few institutes (DPC 4 and 7) believe that external context has little or no impact at all because they are adaptive to situations. The researchers found that almost every institute believes that organizational structure and work motivation are currently not suitable with the communication work. Only DPC 4 and the Generic Contagious Disease Bureau believe the current organizational structure assists in communication work because there is a separation between academic officers and public relations officers. Other institutes suffer from a lack of a public relations division and were thus unable to produce evaluation reports. In addition, organizational culture focuses on the issue of teamwork (4 institutes), followed by services and work quality. As for leadership, the findings reveal that leaders from the central governmental bureau are goal oriented and coordinate work performance, while representatives from regional bureau (Offices of Disease Prevention and Control 1, 3, 4, 7, and 11) emphasize interaction and work support (Bureau of Dissemination and Public Relations, Bureau of General Communicable Diseases, Bureau of Vector-borne Diseases, and Bureau of AIDS, TB and STIs).

After analyzing secondary information and interview results, public relations experts gave comments on the context in public health communication efforts, saying that the current work structure might be an obstacle to communication tasks and affirming that employees lack work motivation. Recommendations for development direction are to alter the structure to support public relations career development and to reconsider alternative organizational structure that will create flexibility for responding to health problems more effectively. Communication efforts must be receptive to sudden changes in order to match current public opinion or attitudes of the target audience at the time of communication.

| | **Context** | | | | | | |
|---|---|---|---|---|---|---|---|
| Name | **Politics** | **Society** | **Technology** | **Organization structure** | **Motivation** | **Culture** | **Leadership** |
| **Bureau of Disemmination and Public Relations** | High | No Information | No Information | incompatible | incompatible | No Information | No Information |
| **Bureau of AIDS, TB and STIs** | Moderate | High | High | incompatible | incompatible | No Information | Emphasize on success and interaction |
| **Bureau of General Communicable Diseases** | High | High | High | compatible | incompatible | Emphasize on quality | Emphasize on success and interaction |
| **Bureau of Vector-borne Diseases** | Moderate | High | High | incompatible | incompatible | Emphasize on Teamwork | Emphasize on success |
| **Offices of Disease Prevention and Control 1** | High | High | High | incompatible | incompatible | Emphasize on service and quality | Supported and interaction |
| **Offices of Disease Prevention and Control 3** | Low | High | High | incompatible | incompatible | Emphasize on Teamwork | Focus on Direction |
| **Offices of Disease Prevention and Control 4** | Low | High | Low | compatible | incompatible | No Information | Emphasize on interaction |
| **Offices of Disease Prevention and Control 7** | Low | Low | High | incompatible | incompatible | Emphasize on Service and Teamwork | Supported |
| **Offices of Disease Prevention and Control 11** | High | High | High | incompatible | incompatible | Emphasize on Quality and Teamwork | Focus on Direction and Interaction |

| | Input | | | Process | | |
|---|---|---|---|---|---|---|
| Name | Compatibility | Executive Support | Adaptation | Public Relations | Networking | Participatory Communication |
| **Bureau of Disemmination and Public Relations** | compatible | No Information | No Information | No Information | Information No | No Information |
| **Bureau of AIDS, TB and STIs** | incompatible | incompatible | incompatible | ❸ | No Information | No Information |
| **Bureau of General Communicable Diseases** | incompatible | incompatible | incompatible | ❶❷❸❹ | No Information | ❶❷ |
| **Bureau of Vector-borne Diseases** | incompatible | incompatible | incompatible | ❶❷❸❹ | No Information | No Information |
| **Offices of Disease Prevention and Control 1** | incompatible | incompatible | incompatible | ❶❷❸ | ❶❷❸ | ❶❷ |
| **Offices of Disease Prevention and Control 3** | incompatible | incompatible | incompatible | ❶❷❸ | ❶❷ | ❶❷❸❹ |
| **Offices of Disease Prevention and Control 4** | incompatible | incompatible | No Information | ❶❷❸ | ❶❷❸ | ❶❷❸❹ |
| **Offices of Disease Prevention and Control 7** | incompatible | compatible | incompatible | ❶❷❸ | ❶❷ | ❶❷❸❹❺ |
| **Offices of Disease Prevention and Control 11** | incompatible | compatible | incompatible | ❶❷❸❹ | ❶❷ | ❶❷❸ |

Table 1: Context, Input, and Process Data from Interviews with Participants

Research results, including budget and employees, reveal that the Department of Disease Control has a budget of almost 100,000,000 baht dispersed among the central government bureau and regional offices and institutes. The office that received the highest allocation is the Bureau of Dissemination and Public Relations. The results also reveal that communication officers are public health technical officers, registered nurses, and public health officers, as shown in Table 2.

| | Offices | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Position** | **D.D.C.** | **B.D.P.R.** | **B.G.C.D.** | **B.A.T.S.** | **B.V.D.** | **D.P.C.1** | **D.P.C.3** | **D.P.C.4** | **D.P.C.7** | **D.P.C.11** |
| Public Health Technical Officer | 870 | 4 | 74 | 53 | 37 | 45 | 45 | 40 | 50 | 44 |
| Plan and Policy Analyst | 36 | 1 | 0 | 8 | 0 | 0 | 0 | 0 | 1 | 1 |
| Dissemination Technical Officer | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Registered Nurse | 437 | 0 | 0 | 28 | 0 | 23 | 13 | 7 | 9 | 4 |
| Public Relations Officer | 4 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Public Health Officer Public Health Officer | 569 | 0 | 20 | 8 | 5 | 14 | 60 | 34 | 33 | 59 |
| Medical Science Technician | 95 | 0 | 22 | 3 | 2 | 8 | 1 | 2 | 1 | 1 |
| Graphic Designer | 8 | 1 | 1 | 1 | 2 | 0 | 0 | 0 | 0 | 0 |
| Audio-Visual Officer | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

Table 2: Classification of representatives' institutes' public health communication personnel

*Source: Officer division 28/04.53 detailed position separation of civil officers, Department of Disease Control*

Input factors, especially in the area of personnel area, are not suitable for the current communication situation, which requires well-trained communicators. In addition, current budget and personnel adaption to meet job requirements are reported as incompatible, and the administrators do not adequately support communication operation. The officers whose superiors pay little attention and possess little understanding of communication (DPC 3 and Bureau of General Communicable Diseases) have to operate and solve their problems under the abovementioned constraints.

Table 1 illustrates that the Bureau of Dissemination and Public Relations has overall favorable inputs. In terms of support from superiors, only 2 offices of the DPC 7 and 11 reported favorable support. Finally every interviewee agrees that the current adaptation of input has not been conducted appropriately, attributing this to bureaucratic regulations.

The expert panel's feedback is: for personnel, the officers have good knowledge of public health; for budget, all offices receive the same budget even though they face different problems; for bureaucracy, the work system has low flexibility, which causes delayed communication. Their suggestions for input factors are to reinforce not only public relations officers' knowledge and skills but also their superiors' in the area of public relations. Compulsory training in communication, budget allocations and communication planning and implementation in response to specific problems is recommended.

Due to the fact that the Department of Disease Control lacks previous records on communication activities, this research result is based purely on interviews with operating officers. The researchers used public relations process, networking process, and participatory communication process as an evaluative framework. Researchers found that the interviewees had a basic understanding of public relations processes, lacking knowledge in the last, yet most crucial step, evaluation. As for networking and participatory communication processes, most of the officers only executed the meeting stage and exchanged ideas with network members and media. They did not embark on consistent and sustainable communication, as officers reasoned that they do not have sufficient knowledge of the work process.

Table 1 illustrates that during the public relations process, only 3 institutes (Bureau of Generic Communicable Diseases, Bureau of Vector-borne Diseases, and Offices of Disease Prevention and Control 11) performed all procedures; 6 institutes performed up to the third stage of the procedure and faced obstacles; and Bureau of AIDS, TB and STIs did not follow the procedure as their operations would simply follow those of international organizations, like the Global Fund and WHO; still they found they faced obstacles during the work process.

For networking process, only regional institutes, DPC 1 and 4, completed the third stage of the procedure, or up to collaboration to set objectives with network members. The other 3 institutes (DPC 3, 7 and 11) performed up to stage 2, setting up a network.

For participatory communication process, only DPC 7 reported that they performed all steps. In contrast, two other institutes performed up to stage 4, cooperative work step. Three reached to stage 3, cooperative planning, and two reached to stage 2, cooperative acknowledgement, thought, and decision making.

Experts evaluated that officers might not understand how to conduct procedures correctly, even if the selected processes are well fitted for public health communication. In addition, all the processes examined are similar to those Siam Cement Group (SCG) uses for their communication. The panel found that Department of Disease Control needs a clearer, standardized procedure control system. Therefore, the department should determine ways to thoroughly control how procedures are conducted instead of letting the work process depend on an individual's ability to prevent a drastic decline in organization performance that may occur when the officers are replaced with less experienced ones.

Product research results reveal that the communication too that representatives usually employ are educating target audience, situation analysis, community relations, and community activities campaigns. The interviewees said that they desired to extend their work into marketing public relations or social marketing, reputation management, and promote policies or lobbying as shown in Table 3. The obstacles in this aspect are lack of knowledge and specialists in communication material production as shown in Table 4.

| Questions | Public Relations Activities |
|---|---|
| **Most frequent activity** | Disseminate news |

| | |
|---|---|
| | Educate<br>Situation Analysis<br>Community Relations<br>Campaigning community activities |
| **Least frequent activity** | Gather Donations<br>Marketing Public Relations<br>Corporate Identity<br>Public policy makers relations<br>Internal Public Relations |
| **Least frequent activity** | Marketing Public Relations<br>Social Marketing<br>Reputation management<br>Public policy makers relations<br>Lobbying |

Table 3: Interview results on categories of representatives' public relations tasks

| Representative group | Interviewees Interview Examples |
|---|---|
| **Bureau of Dissemination and Public Relations** | Too much budget spent on communication material production and officers are not motivated to perform |
| **Bureau of AIDS, TB and STIs** | No Information |
| **Bureau of Generic Communicable Diseases** | No knowledge in public relations field, e.g. communication materials production |
| **Bureau of Vector-borne Diseases** | Personnel lack work motivation because the policy does not give precedence to public relations work |
| **D.P.C. 1** | The organization gives little importance to public relations tasks |
| **D.P.C. 3** | Personnel lacks public relations knowledge |
| **D.P.C. 4** | Lack personnel, executives do not support and do not understand the public relations fundamentals |
| **D.P.C. 7** | Lack personnel, executives do not support and do not understand public relations fundamentals |
| **D.P.C. 11** | Insufficient personnel and lack of public relations knowledge |

Table 4: Product obstacles from interviewees

Secondary information on work performance gathered by the Department of Disease Control cover indicators measured with the public and media. No measurement of other service users, such as provincial public health service providers groups has been conducted. The available indicators include awareness, education, health behavior change, and satisfaction towards organization communication performance. As for data gathering consistency, the findings are of only 2 (Bureau of Dissemination and Public Relations and Offices of Disease Prevention and Control 1) out of 8 institutes. See Table 5.

| | Respondents | | | | |
|---|---|---|---|---|---|
| | iaMass Med | | Public | | |
| Representative Group | Satisfaction (Result:Target) | Satisfaction (Result:Target) | Awareness (Result:Target) | Education (Result:Target) | Behavior (Result:Target) |
| Bureau of Dissemination and Public Relations | 85:80 | 98:80 | 98:90 | 80:80 | 70:60 |
| AIDS, TB Bureau of and STIs | N/A:80 | N/A:80 | N/A:90 | 35:80 | 50:60 |
| Bureau of Generic Communicable Diseases | 65:80 | N/A:80 | 78:90 | 30:80 | N/A:60 |

| | | | | | |
|---|---|---|---|---|---|
| Bureau of Vector-borne Diseases | N/A:80 | N/A:80 | N/A:90 | N/A:80 | N/A:60 |
| D.P.C.1 | 85:80 | 98:80 | 95:90 | 90:80 | N/A:60 |
| D.P.C. 3 | N/A:80 | N/A:80 | 93:90 | N/A:80 | N/A:60 |
| D.P.C. 4 | N/A:80 | N/A:80 | 80:90 | N/A:80 | 35:60 |
| D.P.C. 7 | N/A:80 | N/A:80 | N/A:90 | N/A:80 | N/A:60 |
| D.P.C. 11 | 80:80 | N/A:80 | N/A:90 | N/A:80 | N/A:60 |

Table 5: Product Research Result

*Source:* ***Department of Disease Control Indicator* 2009 *Annual Report***

According to Table 5, the Department of Disease Control's communication performance measurement separated the target group into two categories: mass media and the public. For communication effort evaluation in the mass media group, the department measures the level of satisfaction with their work effort. As for the public group, the department uses four criteria: awareness, knowledge, behavioral change, and satisfaction, for measurement.

The Department of Disease Control's communication effectiveness measurement to determine satisfaction of the mass media group has an effort target at 80 percent. Results show two institutes that surpassed this goal: the Bureau of Dissemination and Public Relations (85 percent) and D.P.C. 1 (85 percent). D.P.C. 11 reached the aimed target, while the Bureau of Generic Communicable Disease is the only institute that did not reach the target (65 percent). The other five institutes: Bureau of AIDS, TB, and STIs, Bureau of Vector-borne Diseases, and D.P.C. 3, 4, and 7, did not measure mass media satisfaction.

As for public satisfaction, the organization has an effort target of 80 percent as well. Results show two institutes surpassed the goal, Bureau of Dissemination and Public Relations (98 percent) and D.P.C.1 (98 percent). The rest did not measure public satisfaction.

In terms of public awareness, the organization has set a performance target of 90 percent. Three institutes surpassed the goal, Bureau of Dissemination and Public Relations (98 percent), D.P.C. 1 (95 percent), and D.P.C. 3 (93 percent), while the Bureau of Communicable Diseases and D.P.C. 4 did not reach the target (78, 80 percent respectively). Other four institutes including Bureau of AIDS, TB, and STIs, Bureau of Vector-borne Diseases, D.P.C. 7, and D.P.C.11, did not measure public awareness.

For public knowledge, the organization set a target of 80 percent, but results show that only D.P.C.1 (90 percent) surpassed the goal. The Bureau of Dissemination and Public Relations reached the aimed target, while Bureau of Generic Communicable Diseases (30 percent) and Bureau of AIDS, TB and STIs (35 percent) were unable to. The other five institutes, including Bureau of Vector-borne Diseases, D.P.C. 3, 4, 7, and 11, did not measure public knowledge.

As far as public behavioral change is concerned, although the organization set a target as low as 60 percent, it turns out that only the Bureau of Dissemination and Public Relations surpassed the goal (70 percent). The Bureau of AIDS, TB and STIs (50 percent) and Offices of Disease Prevention and Control 4 (35 percent) did not reach the target. The other five institutes, including the Bureau of Vector-borne Diseases, D.P.C.1, 3, 7, and 11, did not measure public behavioral change.

The experts commented that although officers performed suitably for the organization's missions, more variety of communication materials and co-production of communication materials with other related institutes are recommended. This is to ensure that the communication materials and activities actually meet target audience needs. The experts also felt that the criteria used are not adequate to determine communication effectiveness.

The experts recommend that the department should add objectives that are suitable for their communication work, such as change in public intention to perform health behavior, as it is a direct

effect of communication effort. Behavioral change now seems to be the ultimate goal of public relations, but there are still over expectations on the impact of various communication activities. The department should also support coordination among different bureaus and offices. Clear, measurable objectives and a quantified expected output for each communication activity must be set and evaluated accordingly.

The department should campaign to raise public awareness nationally, then, executed locally to meet regional tastes, expectations and needs. Constant research into public needs before producing communication materials is vital. The department should regularly rehearse the work processes, which can be a table-top practice or problem-solution simulation. To establish credibility in product results, the department should employ external organizations to evaluate projects or activities.

## DISCUSSION

The discussion is divided in two parts. The first is the Department of Disease Control public health communication performance and the second is recommendations for the Department of Disease Control public health communication improvements.

The data the experts requested include each communication activity measurement. This is because a one-time measurement after several events or a one-time measurement at the end of the year cannot reflect the actual public relations effort effectiveness. Changes in satisfactory level, awareness level, acknowledge level, and behavioral change level of the target groups might be caused from other factors, not from public communication efforts by the Department of Disease Control (Khorpornprasert, 1998, Kleechaya, 2004, & Lindermann, 1993).

In addition, the experts suggest that an external organization perform the evaluation, while public relations officers perform a parallel evaluation. The purpose is to validate and compare the results from both sources. However, the CIPP evaluation model reveals the current effort's strengths and weaknesses that need improvements are as follows:

From context evaluation, the experts found that the current organization structure could be an obstacle for public relations efforts. The role and responsibility of the organization up to communication effort boundaries are unclear. Another obstacle is the lack of employee motivation in a public relations career path because they feel that there is low career growth potential, especially for government and public health officers. This can potentially affect the input evaluation. Even though there is an allocated budget for communication work, the department still lacks expert officers that can utilize the budget effectively. However, the experts still believe that public health officers are important because the messages constructed will be more accurate.

From process evaluation, the experts found that the representatives did not perform all the steps in a procedure and do not have a clear procedure control system. Furthermore, bureaucracy prevents prompt response to situation changes (Tonson, 2001). The Department needs to standardize sustainable networking (Boonyarattapan, et al., 2009) and participatory communication (Tansakun, et al., 2003) utilizing a thorough system control.

From product evaluation, the experts found that existing activities, product variety, and communication coordination with other organizations are already suitable for the organization's obligation; however, they could not determine the effectiveness of communication work because the indicators are not sufficient.

The research also revealed the relationship between size, budget, and communication performance (Thiptharadon, et al., 2008). For example, Offices of Disease Prevention and Control supervising a small area such as Offices of Disease Prevention and Control 1 (Bangkok) received the same budget for Offices of Disease Prevention and Control supervising a large area such as Offices of Disease

Prevention and Control 7 (Ubonratchathani), three times the size of the area responsible by Offices of Disease Prevention and Control 1 (Bangkok).

For the Department of Disease Control's communication product, it is found that even though the mass media said in interviews that while they are satisfied with the Department's communication officers availability, they felt that the department still cannot respond to mass media's needs effectively. The cause of this could be a negligence to take corrective action, which is a fundamental of all communication processes used in this evaluation, including public relations process (Laphirattanakun, 2001 & Wongmonta, 2003), sustainable network process (Boonyarattapan, et al., 2009) and participatory communication process (Tansakun, et al., 2003).

These public relations research result on communication officers performance is similar to Patchani Cheyachanya et al (1997) research result, which focused on mass media news writing. However, the officers haven't been in contact with important persons, and promoting new policies is an important part of public relations, which can lead to positive long-term change.

**Suggestions for health communication effectiveness development**

It is found that even though experts provided suggestions about developing public communication effectiveness in the context area by adjusting the structure of support for career growth in public relations officers and reconsideration of organizational planning for more flexibility, the experts still did not provide suggestions in detail for implementation. However, the research results coincides with previous studies that motivation can be created from a structure because employees usually want advancement and a better position in the organizational ladder (Samibat, 2009). This also is consistent with Weather & Davis (1985) and Sudsuk's (1992) findings where they concluded that bureaucracy creates task retardation and lacks the ability to quickly respond to a situation.

Therefore, researchers suggest that the Department of Disease Control should find several options for organizational structure plans that will be suitable for communication missions, emphasizing the importance of career growth opportunity for officers. For example, it should be stated clearly in job descriptions about career growth requirements for public health officers and registered nurses working in the communication field. The public health communication officers can present their previous efforts or communication research and should receive equal recognitions and status with other public health researchers (Phongsrirot, S., 1993 as cited in Samibat, 2001).

The fact that the Department of Disease Control should support public relations skills development for administrators and communication officers and allocations of budget should be determined by problems within a specific area and designing activities consistent with recommendations on health communication stated by Sanitwong Na Ayuthaya (1996), and Samibat (2009).

As for developing the effectiveness in public health communication, the experts suggest that tasks operation not rely only on individual abilities. Instead, the Department should create a clear public relations tasks control, and educate officers at all levels about correct procedures.

A regular seminar, preferably monthly, on various topics should be offered so that officers organize their schedules to be able to attend. Collaboration with other institutes is also recommended. Communication experts can also train and examine public relations officers prior to promotion are additional recommendations.

The experts propose that the Department of Disease Control should determine clear communication objectives before materials production. They should focus on the quality of the media not the quantity, and conduct regular evaluations from the development of the execution until its completion. From further literature review, we found that a clear objective is possible when a communicator has executed a well-researched consumer behavior study, which coincides with the research result from Kitti Kanpai (2008 and 2009). Communication quality consists of content and format that respond to demands from targeted consumers and promptly meet their information needs. Quality can be assessed by communication evaluation indicators created by Panom Kleechaya (2004) and Grunig

(1983). Officers could receive training from institutes specializing in communication evaluation or outsource evaluation tasks to an external institute. The evaluation should not be conducted annually but during and at the end of each project. A collection of these evaluation results, then, can be gathered and used for annual evaluation.

The findings can be used as a supplement in decision making for changes in organizational structure and work motivation for a clearer and more effective public relations effort. This can then contribute to the Department of Disease Control's public relations efforts development for better management, such as roles and responsibilities distribution, employee development system, procedure control system, and evaluation system. Therefore, regular effectiveness research is strongly recommended knowledgeable decision-making.

This paper is evidence that communication evaluation is a crucial method to determine the value of communication efforts. Thus, officers should pay more attention to each evaluation step and learn the working procedure in detail.

This research shows that the CIPP model is effective to assist communication evaluators, as it is fair for those being evaluated. Communication researchers that wish to conduct research using the CIPP model can adapt the tools used in this research to better suit the institute or organization they are evaluating. Future research should consider including external source data to strengthen the results credibility.

## RESEARCH LIMITATION

The researchers avoided individual biased evaluations by using several experts; however, the limitation still lies upon raw data credibility because both secondary information and information from interviews are retrieved from internal sources, i.e., the Department of Disease Control.

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