

## **CHAPTER IV**

### **DATA EXERCISE**

#### **4.1 Introduction**

This pilot study was undertaken to test the data collection instruments (questionnaires) for the proposed study and to get feedback for necessary changes to improve the questionnaires in terms of applicability, suitability and clarity. The pilot study was also conducted to collect primary data for my study. Through this pilot study a dummy list of competencies required for MPH course was developed. This preliminary competency list will be further studied in the proposed larger-scale study to be conducted this year (see Chapter 3).

#### **4.2 Objectives**

The objectives of the pilot study are:

1. To test the instruments of the proposal in terms of clarity and applicability, so that the instruments can be modified or improved based on the results of the pilot study,
2. To correct primary data for the data exercise of this study.

### **4.3 Research Methodology**

In this study both quantitative and qualitative methods were used to take different views and use different research methods to improve understanding. Only quantitative methods would not provide some of the qualitative aspects of the competencies; some views, perceptions and behavioural aspects of the respondents may be missed. Quantitative techniques, however allow for larger-scale coverage of target populations. Therefore a combination of methods were employed. The quantitative study was done through self-administered questionnaires on levels of agreement with suggested competencies, which were quantified on Likert-scale of alternatives. The qualitative study was done through in-depth interviews of respondents.

The questionnaires were personally delivered to all respondents directly or through their secretaries during the time of study, from 9-23 March 1996. In some cases the respondents were not available, so I have to make appointment with the secretaries for in-depth interview. Some of respondents did not have time for the in-depth interview, so only the self-administered questionnaires were completed. Although I distributed thirty four questionnaires, only sixteen completely questionnaires were returned. Since most of the respondents were high officials at the MoPH, they did not have time to complete the questionnaires and some of them had gone abroad for conferences.

For the in-depth interview only four out of sixteen respondents were selected. These respondents were selected based on convenience factors, such as, agree to be interviewed, availability of time and interest in the project activities. Only four respondents were selected because an in-depth interview takes more time and manpower during the interview and the analysis of the results. In the in-depth interview there were some general questions regarding the MPH course by studying at the work place for the public health personnel at the provincial level in terms of perception of usefulness of the course, feasibility of the course, and importance of such a course for the country were asked. The requirements for development of competencies for this course were also discussed.

#### **4.3.1 Sample Population**

Sample population for this pilot study consisted of the following groups :

1. The senior executives of MoPH
2. The curriculum planners of CPH, CU
3. The lecturers who have experience in curriculum development from the other universities

These groups were chosen because they represent stakeholders, as employers, planners and implementors. The senior executives of MoPH represent the government's view of required competencies in terms of policy and planning for MPH graduates. The curriculum planners of CPH, CU are included because they are involved in the curriculum development for the course. The lecturers from the other universities are included to get additional ideas in curriculum development based on their knowledge and experience.

In this pilot study I could not get the opinion of all the target groups, that were selected for the proposed study. So, I chose to collect opinions from related public health administrators, lecturers of Prince of Songkhla University and curriculum planners of CPH, CU on the relevant competencies needed to be developed in the curriculum.

#### **4.3.2 Sample Size**

For this study I chose thirty four respondents: thirty from selected departments of the MoPH, two from CPH, CU, and two lecturers of Prince of Songkhla University. The sampling method used in this study was purposive sampling. From the senior executives of MoPH who are directly or indirectly involved with the development of public health personnel, I chose two or three representatives from every department of the MoPH, such as: Office of The Permanent Secretary of Public Health, Department of Medical Service, Department of Health, Department of Communicable Disease Control, Department of Medical Sciences, Food and Drug Administration and Health System Research Institute. The lecturers from the other universities, I chose two lecturers from Prince of Songkhla University who have experience in curriculum development for a Bachelor Degree of Public Health program by studying at the workplace. Since these sample sizes were chosen by purposive sampling the results of this study are not representative of the target groups and can not be generalized to other areas.

### 4.3.3 Instruments

The instruments used for the study were (i) self-administered questionnaire (ii) in-depth interview by structured questionnaire. I went personally with the questionnaire to various respondents. Since most of the respondents were high level officials, it was difficult to get appointments for an interview as the officials were very busy with their work. During the interview, questions related to competencies were asked and the self-administered questions were answered by the respondents in my presence. Some of the respondents could not be interviewed due to their lack of time and only the self-administered questionnaires were answered.

In this questionnaire I included: (i) a general profile, e.g., years of service, present position, degree of education, and address; (ii) open-ended questions about what the students should learn from this course; (iii) various desirable professional competencies, i.e., analytical competencies, communication competencies, policy development and programme planning competencies, cultural competencies, human/community development competencies, a change agent by applying basic health sciences competencies, financial planning and management competencies, adoption of a “public health mind”, adopting good ethical standard of public health practice and acceptance of responsibility with humility, commitment to and advocacy for the mission to achieve better health and quality of life the people, computer competency and leadership qualities; and (iiii) individual suggestions on additional competencies that may be required.

Respondents were asked to indicate their level of agreement on the basis of a 5-point Likert-type scale of alternatives: (1) Strongly Disagree (2) Disagree (3) Neutral (4) Agree (5) Strongly Agree (see Appendix A).

#### **4.4 Result of the pilot study**

##### **4.4.1 Result of in-depth Interview**

As the result of in-depth interview it was found that the respondents were interested to contribute to the study. Most of the respondents expressed that, the course may be relevant to the professional situation as it is related to the practical aspect of the work situation. One of the respondents disagree with the relevance of this course, he said that “the student may not have enough time to concentrate on the studies and there may be lack of good facilitators at the provincial level.”

All the four respondents agree that a list of competencies is important for the MPH course. There was argument that this list should be developed based on the public health situation in the country. WHO competencies and competencies from other institutes/countries may be used as guidance rather than accepting them as a whole. According to the respondents, competencies should be based on health problems in the country, socio-economic status of learning site, and capacity of the training institute.

Three out of four respondents said that local facilitators are important and they should know the required competencies which will be taught to the students during the course. They suggested that more focus should be given to training the local facilitators to have the require knowledge of the competencies, which can be transferred to the students.

One out of four respondents disagreed with the list of the competencies in the questionnaire. He said that “these competencies are from WHO list, which may not be relevant to the Thai situation,” although the list of competencies was not only from WHO only.

One of the respondents expressed that the list of competencies is not complete, for example, under analytical competencies, the synthesis of the problem should be added, under computer competencies the basic programmes required should be listed and the term “public health mind” may be changed to the term “Holistic view of public health perspective.”

#### **4.4.2 Result of the self-administered questionnaire**

Out of thirty four questionnaires that I have distributed, I got back sixteen forms completed by the respondents. Some of the respondents did not give back the questionnaires due to lack of time. Therefore, the response rate for this pilot study was about 47%. Considering that the most of respondents were from MoPH who are quite busy, this rate of response can be considered as satisfactory. For the proposed study special care should be taken to cover more respondents than the actual sample size.

Results of the self administered questionnaires were analyzed for average rating and ranking of their agreement which is tabulated as follows.

#### 4.4.2.1 General Information

**Table 4.1 Range of service years of the respondents**

<b>Range of service years</b>	<b>Total number</b>
1 - 5	0
6 - 10	0
11 - 15	1
16 - 20	6
21 - 25	6
26 - 30	3
31 - 35	0
> 35	0
<b>Total</b>	<b>16</b>

**Findings :**

Twelve out of sixteen respondents are in the range of 16-25 service years.

Three out of sixteen respondents are in the range of 26-30 service years.

It indicated that most of the respondents have vast experience in the health system.



**Table 4.2 Position of the respondents**

<b>Position of the respondents</b>	<b>Total number</b>
Deputy secretary of MoPH	3
Assistance secretary	2
Inspector general	2
Senior expert of public health	3
Chief of medical officer	2
Dean	1
Director	1
Lecturers	2
<b>Total</b>	<b>16</b>

**Findings :**

It indicated that most of the respondents are from high level officials with planning and management responsibility in public health.

**Degree of education****Findings :**

All the sixteen respondents have M.D. Degree, with most having attained a second degree, such as, out of them eleven have M.P.H. Degree, one has M.Sc. Degree and one has Ph.D. Degree. It indicated that their views and suggestions may be relevant to this study based on their knowledge.

#### **4.4.2.2 Suggestion of the respondents about what the student should learn in MPH course**

##### **Findings :**

Out of the sixteen respondents eight suggest that project management (planning, operation and evaluation) should be learnt, four suggest that epidemiology and development of technical information system should learnt, three suggest that the student should know about problem solving from this course. Seven respondents have individually suggested that following subject should be taught in MPH course.

- Health System Research and Development
- Ability to ask appropriate question
- Ability to search evidence
- Ability to Appreciate other' s ideas
- Concept of District Health System
- Environment surveillance ( including ergonomic )
- Health Protection, Health Promotion in work place

#### 4.4.2.3 Rating of the respondents on the competencies

**Table 4.3 Analytical competencies**

Competencies	Total number	Average Rating	Rating of Respondents				
			1	2	3	4	5
1. capacity for defining problem	16	4.9				1	15
2. evaluating data	16	4.6			1	3	12
3. making relevant inferences from available information	16	4.5			1	5	10

#### **Findings :**

In analytical competencies on average all the respondents strongly agree that the capacity for defining problem should be included in the list of competencies.

**Table 4.4 Communication competencies**

Competencies	Total number	Average Rating	Rating of Respondents				
			1	2	3	4	5
1. effectively communication verbally and in writing	16	4.5				8	8
2. presenting information	16	4.6				5	11
3. advocating for public health programmes and resource	16	4.4			1	7	8
4. interacting with the media	16	4.0			4	8	4
5. English proficiency	16	4.1			2	11	3

**Findings :**

In communication competencies the average rating by all the respondents is above which indicate that respondents agree to include all competencies in the list.

**Table 4.5 Policy development and programme planning competencies**

Competencies	Total number	Average Rating	Rating of Respondents				
			1	2	3	4	5
1. collecting and summarizing data relevant to an issue	16	4.6				5	11
2. to define priorities	16	5				4	12
3. stating policy/strategic options	16	4.3			2	6	8
4. deciding on appropriate policy/strategy	16	4.1			3	8	5
5. developing a comprehensive plan/program	16	4.5			2	3	11
8. developing mechanism and system to monitor and evaluate programmes	16	4.4			1	7	8
9. develop essential information infrastructure	16	4.3		1	1	6	8

**Findings :**

On the average all the respondents strongly agree to include “define priorities” in the list of competencies.

**Table 4.6 Cultural competencies**

Competencies	Total number	Average Rating	Rating of Respondents				
			1	2	3	4	5
1. understanding the dynamic forces which contribute to culture diversity	16	4.4			3	3	10
2. interacting sensitively with persons from different socio-economic and educational backgrounds	16	4.5			1	6	9
3. identifying the roles of cultural, social and behavioural factors in determining health and health system	16	4.5			1	6	9

**Findings :**

All the respondents agree to put all of competencies in the list, the average rating is almost equal for the competencies.

**Table 4.7 Human/community development competencies**

Competencies	Total number	Average Rating	Rating of Respondents				
			1	2	3	4	5
1. under the importance of individual and community in health development	16	4.5			1	7	8
2. identify appropriate individual and community strengths upon which to develop	16	4.3			1	8	7
3. ability to work effectively as partners with community and other stakeholders	16	4.6				6	10
4. ability to motivate individuals and groups to concerted action	16	4.5				7	9

**Findings :**

All the respondents agree to put all of the competencies in the list, the average rating is almost equal for the competencies.

**Table 4.8 Act as a change agent by applying basic health sciences competencies**

Competencies	Total number	Average Rating	Rating of Respondents				
			1	2	3	4	5
1. defining, assessing and understanding the health status of populations and other socio-economic factors affecting health	16	4.4			1	8	7
2. applying behavioural, social and biomedical sciences	16	3.8			3	6	7

**Findings :**

The average rating by the respondents indicated that “applying behavioural, social and biomedical sciences” may or may not be include in the list of competencies.



**Table 4.9 Financial planning and management competencies**

Competencies	Total number	Average Rating	Rating of Respondents				
			1	2	3	4	5
1. understanding of the programme budgeting system	16	4.8			2	8	6
2. determining fiscal priorities	16	4.1			4	6	6
3. developing and presenting a budget	16	4.1			3	7	6
4. monitoring programme performance	16	4.2			1	8	7
5. using human relation skills to manage organizations and resolve conflicts	16	4.6				7	9

**Findings :**

The competencies on understanding of the programme budgeting system. seem to be almost strongly agree by all the respondents to be included in the list.

Table 4.10 Competencies on Adoption of a “public health mind”

Competencies	Total number	Average Rating	Rating of Respondents				
			1	2	3	4	5
1. pursuing continuous learning that integrates theory and practice	16	4.4			2	6	8
2. adopting a holistic view of health system	16	4.7				5	11
3. adopting system perspective, balancing between public goods, private goods and interest groups	16	4.4			2	6	8
4. understanding the concept of equity, freedom and choice as well as the rights and responsibilities of individuals in the health care system	16	4.4			3	3	10

**Findings :**

Among all the competencies under “public health mind” on the average all the respondents agree to include adopting a holistic view of health system in the list with more agreement than others.

**Table 4.11 Competencies on Adoption good ethical standard of public health practice and accept responsibility with humility**

Competencies	Total number	Average Rating	Rating of Respondents				
			1	2	3	4	5
1. taking risks under conditions of uncertainly, inadequate information and other constraints	16	3.7		1	5	7	3
2. taking action without risks under informed and well-calculated conditions	16	4.1		1	2	7	6

**Findings :**

The average rating by the respondents indicated that taking risks under conditions of uncertainly, inadequate information and other constraints may or may not be included in the list.

**Table 4.12 Competencies on Commit themselves to and advocate for the mission to achieve better health and quality of life the people**

Competencies	Total number	Average Rating	Rating of Respondents				
			1	2	3	4	5
1. commit themselves to and advocate for the mission o achieve better health and quality of life for the people	16	4.4				9	7

**Findings :**

Most of the respondents agree to include this competencies in the list.

**Table 4.13 Computer competencies**

Competencies	Total number	Average Rating	Rating of Respondents				
			1	2	3	4	5
1. computer competencies	16	4.3				11	5

**Findings :**

In computer competencies all of respondents agree to include in the list of competencies.

**Table 4.14 Competencies on Leadership qualities**

Competencies	Total number	Average Rating	Rating of Respondents				
			1	2	3	4	5
1. developing an internal consensus on organizational priorities	16	4.4			1	7	8
2. locating responsibility for the organization's direction and performance	16	4.7			1	6	9
3. enlisting internal and external support for the organization's purposes	16	4.1		1	1	8	6
4. managing conflicts between economic and professional interests	16	4.5			2	8	6

**Findings :**

All the respondents agree that “locating responsibility for the organization's direction and performance” should included in the list as indicated by the average rating.

#### 4.4.2.4 Ranking of the competencies based on important by the respondents

**Table 4.15 Ranking of the competencies based on important by the respondents**

Competencies	Total number	Average Rating	Ranking of competencies				
			1	2	3	4	5
1. Analytical competencies	16	4.7			1	2	13
2. Communication competencies	16	4.4			1	7	8
3. Policy development and programme planning competencies	16	4.1			2	9	5
4. Cultural competencies	16	4.1			3	8	5
5. Human/community development competencies	16	4.5			1	6	9
6. Act as a change agent by applying basic health sciences competencies	16	4.5			2	7	7
7. Financial planning and management competencies	16	3.9			4	9	3
8. Adoption of a “public health mind”	16	4.6				5	11

**continued**

**Table 4.15 Ranking of the competencies based on important by the respondents (continued)**

Competencies	Total number	Average Rating	Ranking of competencies				
			1	2	3	4	5
9. Adopting good ethical standard of public health practice and accept responsibility with humility	16	4.2			1	10	5
10. Commit themselves to and advocate for the mission to achieve better health and quality of life for the people	16	4.4			1	7	8
11. Computer competencies	16	4.3				11	5
12. Leadership qualities	16	4.5			2	4	10

**Findings :**

Based on the average ranking of competencies by the respondents, almost all the competencies are agree upon to be included, except financial planning and management competencies which may or may not be included in the list of competencies.



Using the criteria of average ranking and rating the following list of competencies require for MPH graduate was developed the list is arrange in the descending order of agreement by the respondents.

1. Analytical competencies
  - capacity of defining problem
  - evaluation data
  - making relevant inferences from available information
2. Adoption of a “public health mind”
  - adopting a holistic view of health system
  - pursuing continuous learning that integrates theory and practice
  - adopting system perspective, balancing between public goods, private goods and interest groups
  - understanding the concept of equity, freedom and choice as well as the rights and responsibilities of individuals in the health care system
3. Human/community development competencies
  - ability to work effectively as partners with community and other stakeholders
  - ability to motivate individuals and groups to concerted action
  - under the importance of individual and community in health development
  - identify appropriate individual and community strengths upon which to develop
4. Act as a change agent by applying basic health sciences competencies
  - defining, assessing and understanding the health status of populations and other socio-economic factors affecting health

5. Leadership qualities

- locating responsibility for the organization's direction and performance
- managing conflicts between economic and professional interests
- developing an internal consensus on organizational priorities
- enlisting internal and external support for the organization's purposes

6. Communication competencies

- presenting information
- effectively communication verbally and in writing
- advocating for public health programmes and resource
- English proficiency
- interacting with the media

6. Commit themselves to and advocate for the mission to achieve better health and quality of life for the people

8. Computer competencies

9. Adopting good ethical standard of public health practice and accept responsibility with humility

- taking action without risks under informed and well-calculated conditions

#### 10. Policy development and programme planning competencies

- to define priorities
- collecting and summarizing data relevant to an issue
- developing a comprehensive plan/program
- developing mechanism and system to monitor and evaluate programmes
- stating policy/strategic option
- develop essential information infrastructure
- deciding on appropriate policy/strategy

#### 11. Cultural competencies

- interacting sensitively with persons from different socio-economic and educational backgrounds
- identifying the roles of cultural, social and behavioural factors in determining health and health system
- understanding the dynamic forces which contribute to culture diversity

#### 12. Financial planning and management competencies

- understanding of the programme budgeting system
- using human relation skills to manage organizations and resolve conflicts
- monitoring programme performance
- developing and presenting a budget
- determining fiscal priorities

#### **4.4.2.5 Suggestions on additional competencies**

The respondents have suggested the following additional competencies to be included in the list.

1. Conceptual skill
2. Critical thinking competencies
3. Long life learning skill
4. Disciplinary competency
5. Basic sciences skills appropriate for his/her work
6. Commitment to work with/for the people
7. Know when to follow/lead
8. Endurance
9. Visionary (apply global trend to local setting)
10. The cost effective analysis of different small health programmes
11. Human relationship (to work well with others)

#### 4.5 Delimitations

Delimitation are the inherent factors which are part of the methodology, instruments and procedures of the study and that necessarily limit the research. Since there is no fixed definition of competency, it is difficult to find out the required competency. It is like searching for something which we do not know what it is. Therefore, some important competencies may be left out.

Using purposive sampling and small sample size, the results of this study can not be generalized because they are specific to a particular situation. So the competencies developed through this study may vary according to the workplace in Thailand.

Developing competencies may not be the only way to improve Human Resource Development. Other alternatives should be explored. The students may have the required competencies but they may not use it for health system development due to other reasons, such as, lack of motivation, incentives, hierarchy and recognition. Some of the competencies used in the study were from WHO, which may not be relevant to our situation. Respondents may be biased to accept the competencies as these are from WHO.

#### **4.6 Limitations**

Limitations are the confounding factors related to execution and administration of the study. In this study due to lack of time, the sample size chosen for pilot study is small and represents only some of the target population. So the result of this study can not be generalized. More coverage of respondents are necessary. Although the researcher has consulted the advisors and experts on questionnaire formulation, still there may be limitations in term of clarity and applicability of the questions. The negative competencies could not be included because I could not find what are the negative competencies and how these are used in the course.

#### **4.7 Discussion and Conclusion**

The main purpose of this study was to find out a list of competencies for MPH graduates, who will attend the course by studying at the workplace. From the finding of this study, it was indicated that, on average, most of the respondents agree or strongly agree to the list of competencies included in the questionnaire. We find that among the various competencies, analytical competencies was the most strongly agreed, second was adoption of a “public health mind” and the third was human/community development competencies, as shown in the average ratings in Table 4.15. None of the respondents strongly disagreed with the list of competencies. Since this list was formulated by incorporating competencies from various sources, such as, WHO, College of Public Health, Chulalongkorn University, Chiang Mai University and Mahidol University, the list may have been relevant to the current public health situation in the country. Additional competencies were suggested by the respondents to be included in the list.

The results of the in-depth interview showed that the most respondents are interested to contribute to this study which may indicate their support to this course. One of the respondents suggested that the students may not have enough time concentrate on their studies and the lack of the facilitators at the provincial level have to be considered carefully as these seem to be practical problems for the course.

The suggestion to train the local facilitators for the course seemed quite relevant because, unless there are trained facilitators at the provincial level, it may be difficult to sustain this course. On the issue of competencies being used from WHO list and not being relevant to Thai situation, it may needed further discussion because some of the competencies may be relevant and some may not be relevant.

As most of the respondents were from the policy, planning and administrative level in MoPH, the results of the study may be biased towards their individual responsibilities. This situation can be improved by covering more respondents of various responsibilities through a wider range of target groups and stratified random sampling. To find out the required competencies in the field level, the health personnel working at the provincial level and below should be included in the survey to find their learning needs and demands. This may help reveal the competencies which may be actually required at the field level. Although the respondents agreed to include all the competencies in the list, practically it may not be possible due to various reasons, such as, duration of the course, lack of facilitators and lack of resources.

To ensure a practical and feasible list of competencies various methods were used to analyze the data collected on competencies. The ranking and rating of the competencies by the respondents were tabulated and calculated as percentages. Also, averages of all the individual competencies were calculated and compared. Based on the results of the calculations, a dummy list of competencies was developed. This list may not be comprehensive as the sample size of the pilot study is small and all of the target groups could not be included. Further study of the required competencies would be essential by including more target groups, such as, the PCMOs, the Directors of the provincial and community hospitals and the potential students, and increasing the sample size to cover more respondents. Therefore, a study has been purposed to fulfill the above aspect (see Chapter 3).