Health Disaster Health Services through Specialized Skill Training in Bangladesh

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ABSTRACT

The study conclude that the effects of disaster based health services on health are likely to be predominately negative and impact most heavily on low-income countries where capacity to adapt is weakest, but also on the most vulnerable groups in developed countries. Finding showed that question regarding lacking of disaster medi- education, in case of disaster health information system height response was recorded from Bhola, Khulna and Patuakhali where as lowest from Barisal. It may be due to a tertiary level hospital available at Barisal. In case of national incident management system 79% of respondents from Khulna said national incident management system is not satisfactory but lowest response from Barisal. Most of the respondents (81%) from Khulna mentioned incident command system not up to the level. Mean response was quite high. regarding field box in medi-aid Kit response were almost equal from different environmental zones, Most of the respondents from five selected area gave opinion regarding, antibiotics and antitoxin should provide in Medi-aid Kit. About provision of birth box in medi-aid Kit, height response found from Patuakhali, Khulna respectively and lowest from Barisal. Majority of respondents from different environmental zone gave opinion regarding medi-aid team. It was multiple choice questions. Skilled health personnel like Doctors/nurses, ICT materials; transport facilities should be given prime importance in disaster Medi-aid team.

Keywords: *Health Disaster, Specialized Skill, Training*

INTRODUCTION

Internationally disaster medicine specialists must demonstrate competency in areas of disaster healthcare and emergency management including but not limited to: Disaster planning Law, recovery response and consequences, Medical implications and preparation plans for disaster, and Medical recovery from and response to disaster. Scope of practice in environmental health means the practice of environmental health by registered environmental health specialists in the public and private sector within the meaning of this article and includes, but is not limited to, organization, management, education, enforcement, consultation, and emergency response for the purpose of prevention of environmental health hazards and the promotion and protection of the public health and the environment in the major areas (Ali et al., 1998, Amin, 1992, Amin, and Anwar I 1990).

Education and Skill Training: Education and training of public health and environmental professionals is available throughout the world in Schools of Public Health, Medical Schools, Veterinary Schools, Schools of Nursing, and Schools of Public Affairsand international donor authorities and scientific developmental organizations. (CEGIS, 2006, Amin, et al 1990, Amin, et al 2007b, Amin, 1989, Alam, et al., 1998)

CURRICULUM DEVELOPMENT PROCESS

The curriculum development process is based on Ralph Tyler's four key curriculum development steps: defining goals, establishing corresponding learning objectives, organizing learning objectives to have a cumulative effect, and evaluating outcomes (Tyler 1949, Bruner; 1960, and Harden and Stamper 1999). To include as much flexibility in our curriculum development process as possible, the training center invites leaders of these stakeholder organizations to attend the bimonthly meetings of the curriculum development committee.

The effort also must promote user-driven research that closely aligns future research directions with the needs of decision makers by facilitating multi-directional dialogue among information producers, providers, and end users. This research will require capacity building in a number of areas, especially in climate sciences and disease and ecosystem surveillance necessary to support the health sciences as they grapple with these issues.

Finally, both the efforts and the outcomes need to be evaluated using clear metrics that are linked to assessment questions and outcome indicators to ensure they are valid, effective, and achieve the desired goals. The following infrastructure that we have put in place to protect health and provide well being in the community are hospitals, clinics, public health agencies, trained personnel, roads and transportation systems, the electrical grid, water treatment systems, and many other components. Effective communication and education strategies should be taken to increase public awareness and understanding of the specific risks involved and the complexity of the issues. Communication with particularly vulnerable individuals and populations, as well as with health care professionals and public health officials tasked with protecting communities, is itself deserving of further research.

The advantage of this approach, especially in disaster medicine and emergency management training, is that course content can be adapted to each target audience's learning objectives. We believe that developing specific curriculum for as many different audiences as possible strengthens community resilience and preparedness.

Define goals. Hospitals, long-term care facilities, community health centers, and EMS providers all have different regulatory requirements and self-identified needs for emergency management training. *Establish corresponding learning objectives.* The educational goals of the center will be updated and revised on an ongoing basis. The director of curriculum development and subject matter experts will develop a list of audience-specific learning objectives for each educational goal. These objectives will guide course development and evaluation. Key topics will include incident command systems, the disaster cycle, and the National Incident Management System. Emergency management is well served by the spiral approach because effective disaster management depends upon the ability of professionals from a variety of disciplines to coordinate their efforts in times of crisis. Giving trainees a common foundation will, we hope, improve that cooperation in actual emergency response. In the context the current research was undertaken with the main objectives to: identify the elements of disaster syllabi and its dominant learning sectors; ii. find out inadequacy of medical skills; and iii. find out the HR skill for emergency disaster rehabilitative medication. Objectives are specifically stated here aims that would be achieved by conducting the research empirically. The main outcome studies conducted here to: To identify the elements of health service skill development and its health impact on health management, to find out inadequacy of disaster and medication skills, and to find out the skill requirement for both disaster commodity and service based rehabilitation.

METHODS AND MATERIALS

In a broader sense of the term, methodology considers all techniques, strategies, approaches to be applied at every phases of conducting the research, especially, in collecting, processing and analyzing information. Methodological consideration also involves the reliability and validity of techniques and findings. Documentary analysis has used for the study. Data are facts, figures and other relevant materials, past and present, serving as the bases for study and analysis. The references considered in seleting the approach methodological guides were mostly Amin, et al 1990, Amin, et al., 1993, Hasan, 2007, and Anon. 2007.

Study Design: The study design was biomedical assessment program along with Focus Group Discussion (FGD) and appropriate case studies Case Studies.

Questionnaire points

1. Disaster medication training syllabus

i. Climate and climate change variables ii. Disaster Basics iii. Disaster ICT iv. Field based emergency surgeries v. Homestead Health and Nutrition, vi. Rehabilitation planning.

2. Essential items of a Disaster Medi-aid Kit Box (DMKB)

i. Antiseptics Boxii. Oral Hydrant iii. BPI, thermo- Gluco- meters, iv. Antibiotic and animal bite antitoxins. v. Birth box, vi. Scissors and knife box

3. Materials to be the essentially provided to Disaster Medi-aid Team)

i. Disaster health skilled Physician/nurse ii. Emergency light and charger, battery, tents iii. Water boya, waterproof containers, food, and wateriv. ICT materials and facilities iv. Transport and accessories, vi. Local admin integration orders and guidelines.

4. Disaster diseases due to climate change: Diarrhea, Malaria, Disability Mental disorders Dysentery Skin disease

Research Question: Questionnaire: main points
How do you feel that your service skill is insufficient changing? What is most vulnerable disease factor-fever/ coldl/ parasites? Have knowledge about policy of GOB to perform rehabilitation requirements? Is there any law/ rule to be used in rehabilitation training? Do you have any skill package guideline for better service?

RESULTS AND DISCUSSION

The results obtained from the research are conducted on Climate Change Induced Health Disasters and its Adaptation through Specialized Skill Training in Bangladesh are compiled, analyzed and interpreted in this chapter. The results and findings are illustrated both in tables and graphics as per objectives and variables set for the research program. The major objectives of the studies were to identify the elements of climate change and its effects on health system. Another important objective of the studies was to find out the inadequacy of the issues of disaster medication skills and HR skill requirement for emergency disaster medication.

The analysis for area different study areas shows that 32 per cent respondents of Barisal, Patuakhali, Bhola mentioned diarrhea. It was also found that incidences of skin diseases during monsoon were higher than any other season.

Disaster medication courses lacking in education

The Disaster event created medication courses

Table 1: Disaster medication courses lacking in education

Parameters	Khulna a	Barisal b	Patuakhali c	Bhola d	Mean
Disaster Health Information	81	28	76	83	67.00
National Incident Management System (NIMS)	79	22	59	41	50.25
Incident Command System (ICS)	81	38	30	32	45.25
Ethical and Legal Aspects of Disaster	54	43	31	23	37.75
Food Toxicology and Bio-safety	64	28	81	62	58.75
Emergency Management	82	57	78	86	7 5.75
Environmental Health	64	48	81	22	53.75
Mean	**72.14**	**37.71**	**62.29**	**49.86**	**55.50**

*Notes:
1. ENV -Zone -13 :Ganges Tidal Floodplain: **a. Khulna, b. Barisal**
2. ENV -Zone-18 :Young Meghna Estuarine Floodplain: **c. Patuakhali, d. Bhola**

Finding showed that question regarding lacking of disaster medication education, in case of disaster health information system height response was recorded from Bhola, Khulna and Patuakhali where as lowest from Barisal. It may be due to a tertiary level hospital available at Barisal. In case of national incident management system 79% of respondents from Khulna said national incident management system is not satisfactory but lowest response from Barisal. Most of the respondents (81%) from Khulna mentioned incident command system not up to the level. Question on emergency management and food toxicology and bio-safety most of the respondent mentioned are not satisfactory.

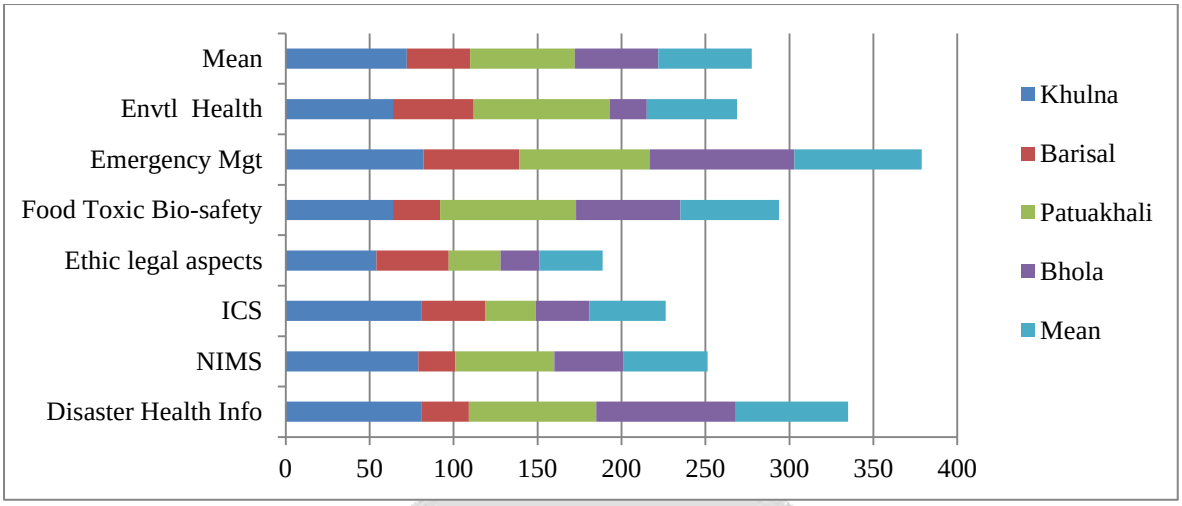

Fig 1: Disaster medication courses lacking in education

Table 2: Content priority for disaster medication training syllabus

Parameters	Khulna a	Barisal b	Patuakhali c	Bhola d	Mean
Climate and climate change variables	81	58	76	73	72.00
Disaster Basics	49	22	19	41	32.75
Disaster ICT	74	43	81	53	62.75
Field based emergency treatment	87	58	81	82	77.00
Homestead Health and Nutrition	72	37	78	56	60.75
Rehabilitation planning.	74	38	81	22	53.75
Mean	**72.83**	**42.67**	**69.33**	**54.50**	**59.83**

*Notes:
1. ENV -Zone -13 :Ganges Tidal Floodplain: **a. Khulna, b. Barisal**
2. ENV -Zone-18 :Young Meghna Estuarine Floodplain: **c. Patuakhali, d. Bhola**

Results obtained from respondents on content priority for disaster medication training syllabus respondents from different environmental zone gave opinion regarding disaster medication syllabus, should include climate and climate change variables, disaster basics, disaster ICT, field based emergency treatment, homestead health and nutrition and rehabilitation planning for better management of the above mentioned parameters. Results showed majority of the respondents think special emphasis should be put on disaster medication training and incorporation of disaster medication training in syllabus.

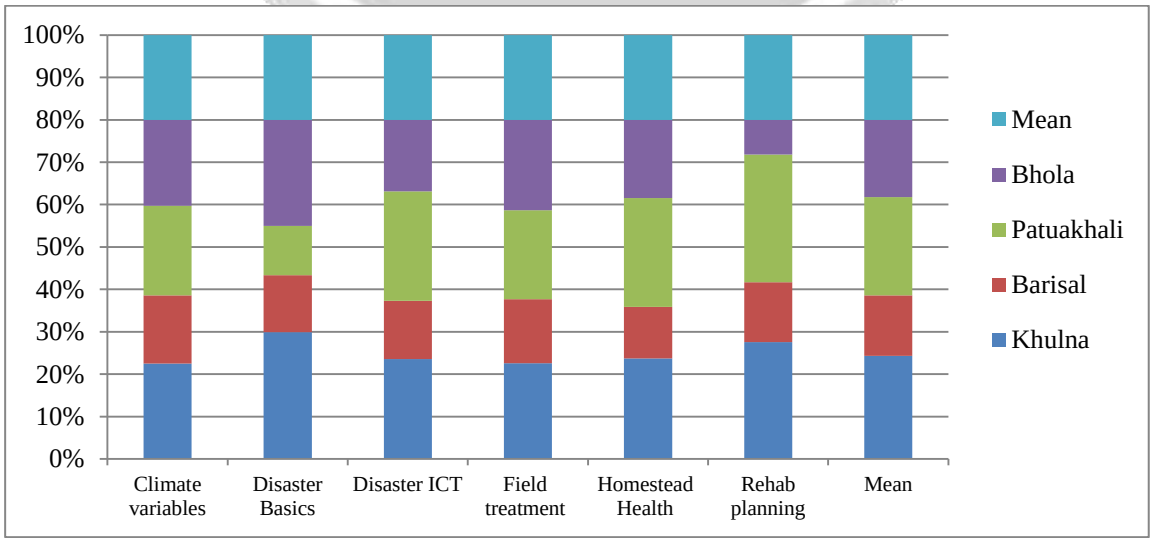

Fig 2: Disaster medication courses lacking in education as per districts

Items of disaster Medi-aid Kit Box (DMKB) Development

Results obtained from the respondents on disaster medi-aid Kit box development, regarding what should be most emergency content? It was a multiple answer question. Mean response from five districts was quite high. regarding field box in medi-aid Kit response were almost equal from different environmental zone, Most of the respondents from five selected area gave opinion regarding, antibiotics and antitoxin should provide in Medi-aid Kit. About provision of birth box in medi-aid Kit, height response found from Patuakhali, Khulna respectively and lowest from Barisal.The modeling approach taken here were from some recommended parameters and LF components (Nayak, 2004, FAO, Anonn 2000, Amin, et al., 1995, GOB 08).

Table 3: Items of disaster Medi-aid Kit Box (DMKB)

Parameters	Khulna	Barisal	Patuakhali	Bhola	Mean
Field Box	81	58	66	73	69.50
Oral Hydrant	49	42	58	41	47.50
BP, Gluco-met	84	33	52	53	55.50
Antibiotic antitoxins	87	69	81	82	79.75
Birth box	72	37	78	56	60.75
Scissors box	64	18	51	22	38.75
Mean	**72.83**	**42.83**	**64.33**	**54.50**	**58.63**

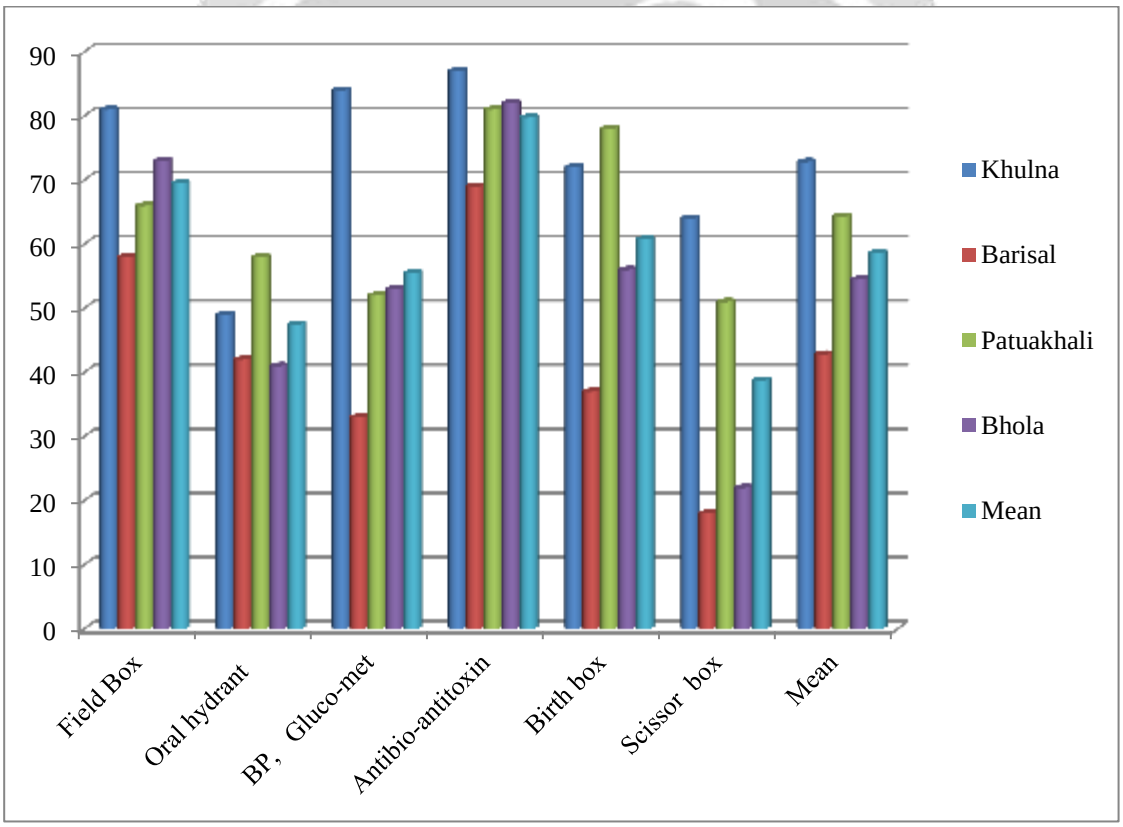

Fig 3: Disaster medi-aid kit box parametric item priorities.

Content priority for disaster Medi-aid team

Findings obtained from the analysis and results show that a majority of respondents from different environmental zone gave opinion regarding medi-aid team. It was multiple choice questions. Most of the respondents mentioned that for proper and emergency disaster management, skilled health personnel like Doctors/nurses, ICT materials, transport facilities should be given prime importance in disaster Medi-aid team. Though response was average on all parameters.

Table 4: Content priority for disaster Medi-aid team

Parameters	Khulna	Barisal	Patuakhali	Bhola	Mean
Disaster skilled Physician/Nurses	81	65	76	84	76.50
Emergency light charger Tents	49	20	19	22	27.50
Waterproof containers food water boxes	74	43	61	53	57.75
ICT material and facilities kits	87	43	81	82	73.25
Transport and accessories	72	27	78	56	58.25
Local admin integration and guide cooperation	85	38	81	22	56.50
Mean	**74.67**	**39.33**	**66.00**	**53.17**	**58.29**

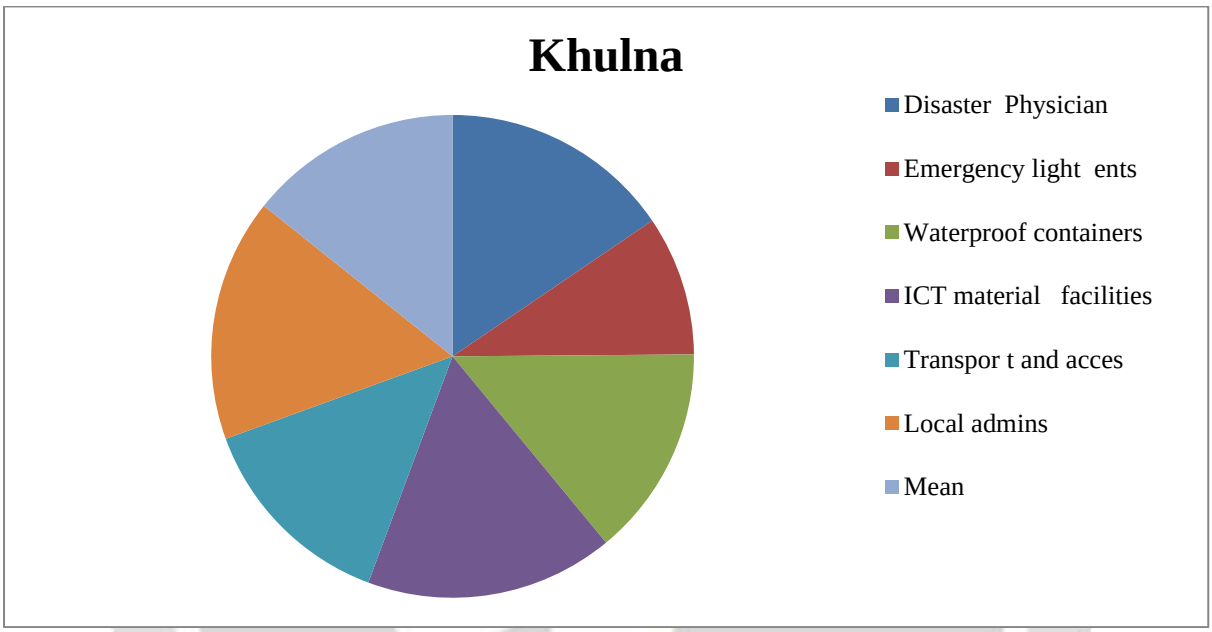

Fig 4: Content priority Disaster medi-aid kit box parametric professional items.

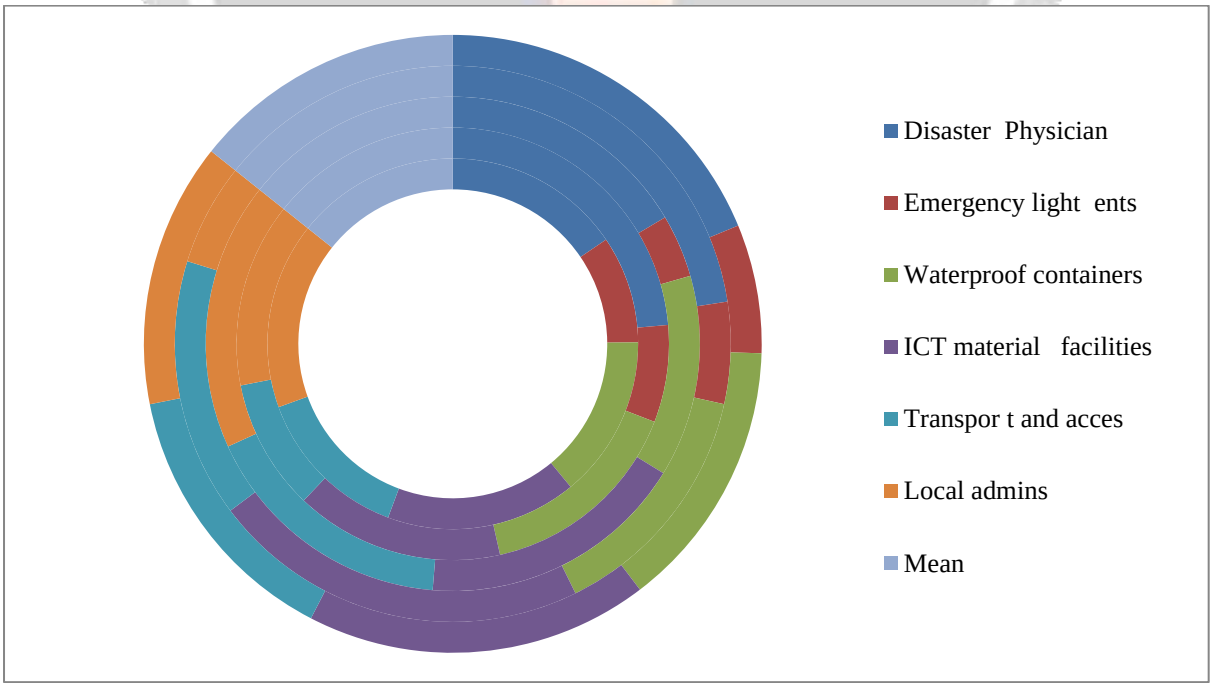

Fig 5: Content priority Disaster medi-aid kit box facilities and service providers.

RECOMMENDATIONS

Results obtained from respondents on content priority for disaster medication training syllabus respondents from different environmental zone gave opinion regarding disaster medication syllabus, should include climate and climate change variables, disaster basics, disaster ICT, field based emergency treatment, homestead health and nutrition and rehabilitation planning for better management of the above mentioned parameters. Curriculum development process has been designed to highlight the fundamentals of emergency response while allowing maximum flexibility and input from our stakeholders and trainees. We believe that the 3-5 step approach is a useful model that can be adapted to many other locations and needs. In addition, the "spiraling" technique is particularly suited to emergency management, emphasizing standardization of disaster management education and enhancing the ability of trainees from various disciplines to work together. The main recommendations include: Integration of disaster and medication rehabilitation education in the mainstream curriculum. Adaptation synergistic initiatives to be given full institutional support and initial incentives. Mitigation related research to be given priority, research finance will be mobilized. Anchor institutions should be identified and their capacities enhanced through training. A pathway for improved coordination involving various stakeholders/agencies will be devised. Climate change related issues to be incorporated into training at community level. Efforts should be taken for community mobilization and involvement of communities in decision making and awareness raising training. Involvement of community members to acquire significant knowledge on raising public awareness and providing training to other community members. Initiative for overarching necessary integrated, interdisciplinary research on climate change health impacts, the health effects of mitigation, and development of appropriate adaptation strategies should be taken. The effort must also be multinational, multiagency, and multidisciplinary, bringing together the strengths of all partners.

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