BRIEF COMMUNICATION

ASSESSMENT OF UNIVERSITIES FIELD RESEARCH SITES FOR ESTABLISHING NATIONAL SURVEILLANCE DATABASE

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ABSTRACT

BACKGROUND: ***Reliable, frequently updated, community-based, longitudinal data is the foundation for rational policy and evidence based decision making. Such information is lacking in the country. Recognizing the costs and complexities of universal vital registration and the gaps of national census for health indicators, and understanding the limitations of household surveys, a credible option is needed. For this, a survey was carried out to assess the potential of universities' field research sites, for establishing national sample surveillance and study sites.***
METHODS: ***A field survey was carried out from June to August 2007 among universities field research sites to address the above dire need of the nation. Data ware collected through stakeholders interview and document review. Descriptive analysis is made to give detail account of the field sites.***
RESULTS: ***The sites are generating population based data to a considerable level on environmental, socio-economic, behavioral, health systems and health status. They are also engaged on different health and health related studies. The location of the sites in the different parts of the country could have both geographical and population representation to a considerable degree.***
CONCLUSION: ***The findings indicate the potential to form a national network of universities field research sites by involving the different stakeholders, and by addressing the indicated gaps. This will contribute for rational health and policy, and to monitor social progress and millennium development goals.***
KEY WORDS: ***sample surveillance, national network, universities field research sites***

INTRODUCTION

Reliable, frequently updated, community-based, longitudinal data is the foundation of rational health and policy. Such information need to include vital events, cause of death, burden of diseases, socio-economic background and performance of the health services. Such information is the driving force for the health sector reform; and could contribute to monitor poverty reduction, millennium development goals and the like. Most poor countries, including Ethiopia lack such data that are urgently required. Recognizing the costs and complexities of universal vital registration, and the gaps of national census for health indicators, and understanding the limitations of household surveys, what would be the other options and alternatives to our situation?

Countries in a similar situation have adapted different but similar new approaches which could address each country's data needs. To mention some of them; a national sentinel system of linked demographic surveillance sites (Tanzania), the Disease Surveillance Point system (DSP) (China), and the Sample Registration System (SRS) (India) (1,2,3). These sites are generating the above mentioned data needed for health sector reform and to monitor social progress. These sites are also recognized by relevant international agencies like the United Nations, World Health Organization, and World Bank (4).

What are the potentials and options to establish such a system in our situation?

Currently the different universities in the country have a health/epidemiologic field research centers which operate at different levels and with varied year of establishment. Some dates back decades ago, some are just starting. Their function also again at a varied level from generating vital events, socio-economic information, etc. to focused study on important national health problems. It seems there is also variation of periodicity and approach in the generation of data and study undertakings (5-8).

The universities field research centers located in the different parts of the country do not have an established joint forum that could serve to regularly share experiences, standardize and harmonize data generation and research methods. The forum could also serve to complement research undertakings as indicated; and to focus on study topics which are peculiar to their geography and population. The universities' field research centers could also greatly contribute to the national health information system by working together with the different stakeholders. It is also expected, the regular generation of community-based longitudinal data and the research undertakings output will greatly contribute to enhance the performance of the development sectors. The location of the universities'

Mekele in the North, Gondar in the Northwest, Haramaya in the east, Addis Ababa in the center, Jimma in the southwest, Arba Minch in the South parts of the country could have both geographical and population representation to a considerable degree.

Here, it would be a novel idea to have a national network of these universities field research sites which could have the potential to generate data/information on socio-economic, health status, health services to a certain level agreed by the different stakeholders. This collaborative national network could serve to continuously produce community-based data on the above three major areas of health information system. The national network needs to be established by a consensus of the different stakeholders. This includes the university field sites that mainly produce the information and the Ministry of Health (MOH), mainly the information consumer, and the Central Statistics Agency (CSA) which has a national mandate to coordinate such undertakings and to avail outputs to all interested parties. There is also a need to involve the different national and international agencies that have interest for social development.

In order to coordinate the different tasks of the network, for resource mobilization, and to give a strategic guidance there is a need to form an executive body of the network. Members of the body would comprise: the above mentioned stakeholders and other relevant national and international bodies. The association will draw its bylaw in line of the national health information system strategy.

The major objectives of this national network of university health/ epidemiology field centers would be to:

1. enhance research undertakings on important national health problems
2. serve as a national sample surveillance and study sites
3. enhance capacity for data collection, management and analysis
4. enhance link between information producers and consumers
5. contribute to the development of the national health information system
6. lend itself to use triangulation to improve quality of data, where there is no single best source of data

The establishment of the national universities' sample surveillance and study sites need be realized through a mutually agreed phased approach. The initial stage would be assessment of the current status of each site based on a reasonable contribution to the national need. This would help to identify the gap. The gap will be addressed collectively by all stakeholders. The assessment finings will also help to standardize periodicity of data collection, harmonization of methods for data collection and research undertakings.

The assessment will attempt to identify organization and resources; and data being generated currently by the different sites (9).

While originating in the university, the development of this new system (the network) needs to accommodate the overall development of information strategies, governance structures, and social development monitoring agendas of the nation. The sites could also be used efficiently as multifaceted facilities to serve for data generating and research undertaking for the different faculties and disciplines of the universities to enhance to the above mentioned national development goals.

MATERIALS AND METHODS

The following universities field research sites were surveyed from June to August, 2007.

1. Butajira, Addis Ababa University, central Ethiopia, established in 1987
2. Dabat, Gondar University, north west Ethiopia, established in 1995
3. Gilgel Gibe, Jimma University, south west Ethiopia, established in 2005
4. Kersa, Haramaya University, eastern Ethiopia, established in 2007
5. Mekele University
6. Arba Minch University

} Future field sites identified considering demographic and geographic representation

Both staff and officials of each institute have participated in providing relevant data. The list includes from field site data collector to university president. Existing documents and literatures of each institute were also consulted. Discussion has been also held with the Ministry of Health and Central Statistics Agency officials.

Data was collected by visiting each university using both structured and unstructured and its respective field site; analysis was descriptive approach to provide detail account on the field research sites.

RESULTS

Each field site had one urban and nine rural kebeles but Gilgel Gibe had one urban and eight rural. The urban population of each site ranges from five thousand (Dabat) to fourteen thousand (Butajira). Each site had about forty thousand population, except Dabat which was 36 756. The total population of all six sites (including the two new ones to be established) is estimated to be over two hundred thousand. This would be a robust sample of any major public health national study and to generate community-based longitudinal data for national use. And the distance of sites from their respective universities ranges from forty to over two hundred kms which was between one to two hours drive (Table 1).

Table 1. Organization of universities field research sites, 2007.

University	Field site	Establishment year	Distance from university	Settings						Location in the country
				Urban		Rural		Total		
				Kebele	Population	Kebele	population	Kebele	population	
Addis Ababa	Butajira	1987	135 km	1	14 000	9	42000	10	56 000	Centeral
Gondar	Dabat	1995	75 km	1	5 610	9	31146	10	36 756	Northwest
Haramya	Kersa	2007	44 km	1		9		10		East
Jimma	Gilgel Gibe	2005	55 km	1	6402	8	35888	9	42290	Southwest

Field research site expected to be established at Arbaminch (south) and Mekele (North)

Structurally, the sites were either under a department or a school/faculty/institute of the universities. The main purpose for the establishment of the field research sites in general was to register vital events, provide a study base for important public health studies, capacity building and intervention.

Resources: Sites reported having working spaces at universities/base, which were rated as adequate by Harmaya and inadequate by others. Again, sites had reported to have working rooms at field levels but were rated inadequate. It is believed adequate working rooms both at the base and field levels would improve the performance of the sites. This is an issue that needs due attention by all concerned.

All of them reported the availability of road transport service but said also were inadequate levels. Facilitated transportation services will greatly contribute to efficient and effective undertakings. Reliable and adequate transport systems need to be availed through a concerted effort of stakeholders.

At base level, all of them except Gondar responded to have telephone, fax and internet services. At the field level, Jimma had telephone and internet services, Addis Ababa had only telephone, but others didn't have any of the three communication services. It should be believed by all concerned, these services are the real moving forces to achieve the above stated common objectives. Advantage should be taken on the fast spreading communication services in the country (Table 2).

Personnel: All sites seemed to have the essential field workers, i.e. data collectors, supervisors and encoders to run routines. The basic staffs for data management (from generation to management) were available but needs relevant training.

Only Addis Ababa reported to have external link established, but others were limited to national ones. This is an area which demands serious concerted work for experience and resource sharing.

Except Addis Ababa, the rest seemed to have some sort of finance allocation by their respective universities, but considered insufficient for the various activities. Addis Ababa reported having external finance assistance for field workers pay but was precarious. Universities and other development partners need to show a real commitment in allocation of funds both on regular and project basses to maximize the utilization of these sites. Again it should be underscored that finance is the other moving force of this scheme (Table 2).

Guidelines: Except Dabat others had a manual for site administration. A written guideline for data management was available for Addis Ababa but others did not have such manuals. It would be helpful to develop site administration manual in the light of the network establishment. Again the other important task for the network would be to establish a reliable data management from field to national level that facilitates utilization at each level (Table 2).

Data: The following data were regularly collected, but with varied approaches and periodicity.

Environmental health data on water supply, sanitation and waste disposal were collected on different time periods by each site on monthly, bimonthly, quarterly and during census. Demographic data including birth, death, migration and marriage events were registered by all sites but with varied period as above. Socio-economic data on education and income were being registered in a varied time period again as above. Currently no data is being generated on important behavior related factors like alcohol drinking, smoking and exercise. Health system data like immunization, growth monitoring, birth attendants items are being collected by the different sites on a quarterly basis (Table 3).

Table 2. Resources available to universities' field research sites, 2007.

Resources	University			
	Addis Ababa	Gondar	Haramya	Jimma
Budget				
Internal budget	No	Yes	Yes	Yes
External budget	Yes	Yes	Yes	No
Other	No	No	Yes	No
Number of offices/ rooms at Universi y	3	3	2	3
Number of offices/ rooms on field	2	3	2	3
Transport	Inadequate	Inadequate	Inadequate	Inadequate
Basic communications technology at university				
Telephone	Yes	No	Yes	Yes
Fax	Yes	No	Yes	Yes
Internet	Yes	No	Yes	Yes
Basic communications technology at Field				
Telephone	Yes	No	No	Yes
Fax	No	No	No	No
Internet	No	No	No	Yes
Human resource (number)				
Data collectors	19	7	10	9
Supervisors	6	1	2	1
Data encoders	1	0	1	2
Academic staff involved (number)				
Statistician	§	1	1	1
Epidemiologist		1	1	2
Environmental health		1	1	1
Other public health expert		1	10	0
Social scientist		0	1	0
Clinician		1	2	0
Presence of manuals and guidelines				
Site administration manual	Yes	No	Yes	Yes
Written procedure for data management	Yes	No	No	No
Availability of Link/partnership				
National	No	Yes	Yes	Yes
International	Yes	No	No	No

Field research site expected to be established at Arbaminch (south) and Mekele (North)
§ For AAU, the whole department staff which comprises the above list is included

Table 3. Types of data being generated by universities field research sites, 2007.

University	Environmental Health §	Demographic ¥	Socio-economic †	Behavioral factors *	Immunization and Growth monitoring	Birth attended	Periodicity
Addis Ababa	Yes	Yes	yes	No	No	Yes	Quarterly
Gondar	Yes	Yes	Yes	No	Yes	Yes	Bimonthly
Haramya	Yes	Yes	Yes	Yes	Yes	Yes	Monthly
Jimma	Yes	Yes	Yes	No	Yes	Yes	During census

§ Include water supply, sanitation and waste disposal
¥ Include census, birth, death, migration, marriage
† Include income and education
* Include exercise, alcohol intake and smoking
Field research site expected to be established at Arbaminch (south) and Mekele (North)

Health status: On items of proportion of the population that report being dissatisfied with their social life and proportion of population that report perceiving themselves in fair or poor health which could help to make people participate in valuing and measuring their health were not included in the sites data collection endeavors. This is a means to involve and empower people in their health care. This also requires more work from field sites to be models for others. Indicators for objective health like birth and death registration were instituted by the different sites but periodicity varying from monthly to quarterly which may decrease its sensitivity. It was only Butajira (Addis Ababa) that was carrying out verbal autopsy on quarterly basis. This needs to be introduced to other sites to increase the list of relevant data to be generated by the sites.

None of the sites were carrying out surveillance on important public health diseases like malaria, tuberculosis, etc. These are other important public health data to be regularly produced in order to benefit all partners (Table 4).

Table 4. Data being generated on objective health by the universities field research sites, 2007.

University	Vital events*			Morbidity / Diseases being monitored*		
	Birth	Death	Verbal autopsy	Malaria	Tuberculoses	HIV
Addis Ababa	Yes(4)	Yes(4)	Yes(4)	No	No	No
Gondar	Yes(3)	Yes(3)	No	No	No	No
Haramya	Yes	Yes				
Jimma	Yes(2)	Yes(2)	No	No	No	

Field research site expected to be established at Arbaminch (south) and Mekele (North)

*periodicity: 1=within a week 2=monthly 3=bimonthly 4=quarterly 5=semi-annually 6=annually

Research undertakings: sites had undertaken different health and health related studies. These were published in various professional journals. Again, various studies on health and health related topics are being conducted. There in a need for joint and individual approach for study topics based on national priority. There is also a need for method and tool standardization for national benefit.

DISCUSSION

The main purpose of this study is to sensitize, provoke and advocate establishing a network of field centers to produce a population based longitudinal data which is a gap in the national information system. In order to bring the issue in to limelight, names of future centers, empty tables and would be health indicators are included.

The universities field research sites are generating population based data to a considerable level on environmental, socio-economic, behavioral, health systems and health status. They are also engaged on different health and health related studies.

Data being generated by the different sites is not to the expected level on each of the above mentioned sections. This is mainly due to various constraints. Working station/rooms were inadequate in all sites both at the field and base level, and a similar problem was reflected in transport and communication technology. Lack or inadequate budget and poor incentive for field workers was also reported. These are critical factors which greatly contribute to generate reliable and valid data and for proper data management and use from field to base level. These are issues that need to be addressed by all stakeholders to alleviate the prevailing problems (4,9,10).

There was a variation of methods on data being generated at the different field research sites. Standardization of data generating methods and pooling of data of field research sites is quintessential for the formation of the sites network (4, 10).

Important health data like perceived health, verbal autopsy (except Butajira), reference values of hematological, biochemical and immunological indices were not being generated. These are essential data for public health services and research (4, 7, 10)

Health and health related research were undertaken by the various sites. Again there is a need for standardization and pooling of samples for better quality and national use.

Since there is a scarcity of population based data generating system in the country, this unique opportunity need to be grasped by all stakeholders, so the common interest of producing reliable community based longitudinal data that could lend itself for evidence based planning and decision making could be realized. It could also contribute for monitoring social progress and MDGs (4, 9, 10).

Health economic experts in their analysis, change in health status following changes in the economy with concomitant effect on allocation of resources to the health sector, concluded that since there is no time series data (longitudinal study) in the country, it is difficult to conclude whether there have been change in health status (11). The establishment of this system would also help to avoid wrong estimations like the HIV/AIDS burden as recently reported by WHO because of methodological flaws (12). Thus, both the national and international reports show the need for the establishment of the new network to generate longitudinal data.

In general, government sectors (MOH and CSA) and university officials have expressed that population based longitudinal data is a gap in the information system of the country. And appreciate the attempt to sensitize the different stakeholders for a concerted action.

The next step would be to have a workshop to address this finding by involving the different stakeholders of this initiative. It is expected the discussion would lead to the formation of the national network. An attempt is being made with the MOH, CSA and the universities to organize such a workshop.

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