

A GEOGRAPHY ANALYSIS ON HEALTH CARE CENTRES IN MEIKTILA TOWNSHIP

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Abstract

In this paper, the researcher tried to seek the Medically Underserved Area (MUAs) with the different variables in Meiktila Township. With the help of geographical representation method and the weighted score introduced by the criteria for designation as MUA, the MUAs of the Meiktila Township is defined. Finally, the necessary actions which should be provided for the remote rural areas are proposed. With regard to the health care centres, the numbers of governmental health care centres and the numbers of visited patients to the concerned health care centres are considered. It can be admitted that, the data relating to the private clinics or private hospital in the study area could not be taken into account as the necessary and reliable data are not available from those private sources. The rural areas do have fewer physicians, fewer medical specialists and fewer dentists than the urban areas. It is found that an adequate health care work force is important to the rural area in two ways. Physicians, dentists and other health care practitioners working in rural communities of the study area may earn less in the full-service hospitals and the medical staffs have less access to advance technologies.

Introduction

"Health is a state of complete physical, mental and social well-being subjective or objective, from a state of physiological well-being, whether due to disease, injury or impairment is represented as sickness, illness, ill-health, disease, or morbid conditions." Recent advances in the field of medical geography have greatly improved to understand the role played by geographic distribution of health services in population health maintenance. Access to primary healthcare is recognized as an important facilitator of overall population health. Access to health services not only varies among countries and regions, but also within countries so that data should also be collected on sub-rational variation in access. Many rural areas may have considerable shortages of physicians, physician assistants, nurse practitioners, dentists, mental health providers, registered nurses, and other health care professionals. Primary care is recognized as the most important form of health care for maintaining population health because it is relatively inexpensive and can be more easily delivered than specialty and in patient care, and if properly distributed it is most effective in preventing disease progression on a large scale.

Aim and Objectives

The main aim of the study is to understand about the role of the Health Care Centres for rural people in the study area.

The specific objectives are:

- to study the ratio between total population and respective health care centre,
- to work out the ratio of health care staffs and population,
- to determine primary health care and basic services practised in the study area.

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Sources of Data and Methods

For spatial analysis from the available primary and secondary sources, the simple graphical methods are applied throughout the research work. For primary data, structured interview and questionnaire method are used to acquire information about health care centres. Certain secondary data will be collected from the various government offices.

Next to data acquisition, the appropriate method to demarcate the medically underserved areas is applied.

Study Area

The Study area of this paper is Meiktila Township. It is located in Meiktila district with in Mandalay Region. It lies between 20°39' 15" North latitude and 21°00' North latitude while the longitudinal extent of the township is between 95° 30' 40" East longitude and 96° 00' 55" East longitude. [Map (1)] The township is composed of Meiktila Town proper and 58 village tracts.

The topography of Meiktila Township can be divided into two regions:

1. the western undulating highland and
2. the eastern lowland.

Among the considered physical bases, relief feature is significantly determined on the location of health care centres. There are few centres in the western portion of the Township, due to its rugged terrain. (Map.2)

According to Koppen's climatic classification, Meiktila Township generally receives Tropical Steppe Climate (BSh).

The study area, Meiktila Township, is located in the Central Dry Zone of Myanmar. So, it is experienced by the dry climate with scanty rainfall and high temperature. Hence, it can be assumed that the people in the study area will be suffered from the tropical and zoonotic diseases. To understand the coverage area of medically protected in the township. Therefore, the study area will designate as Medically Underserved Areas (MUAs). Actually, medically underserved area may be a whole township or a group of contiguous village tracts or a group of urban centres in which residents have a shortage of personal health services.

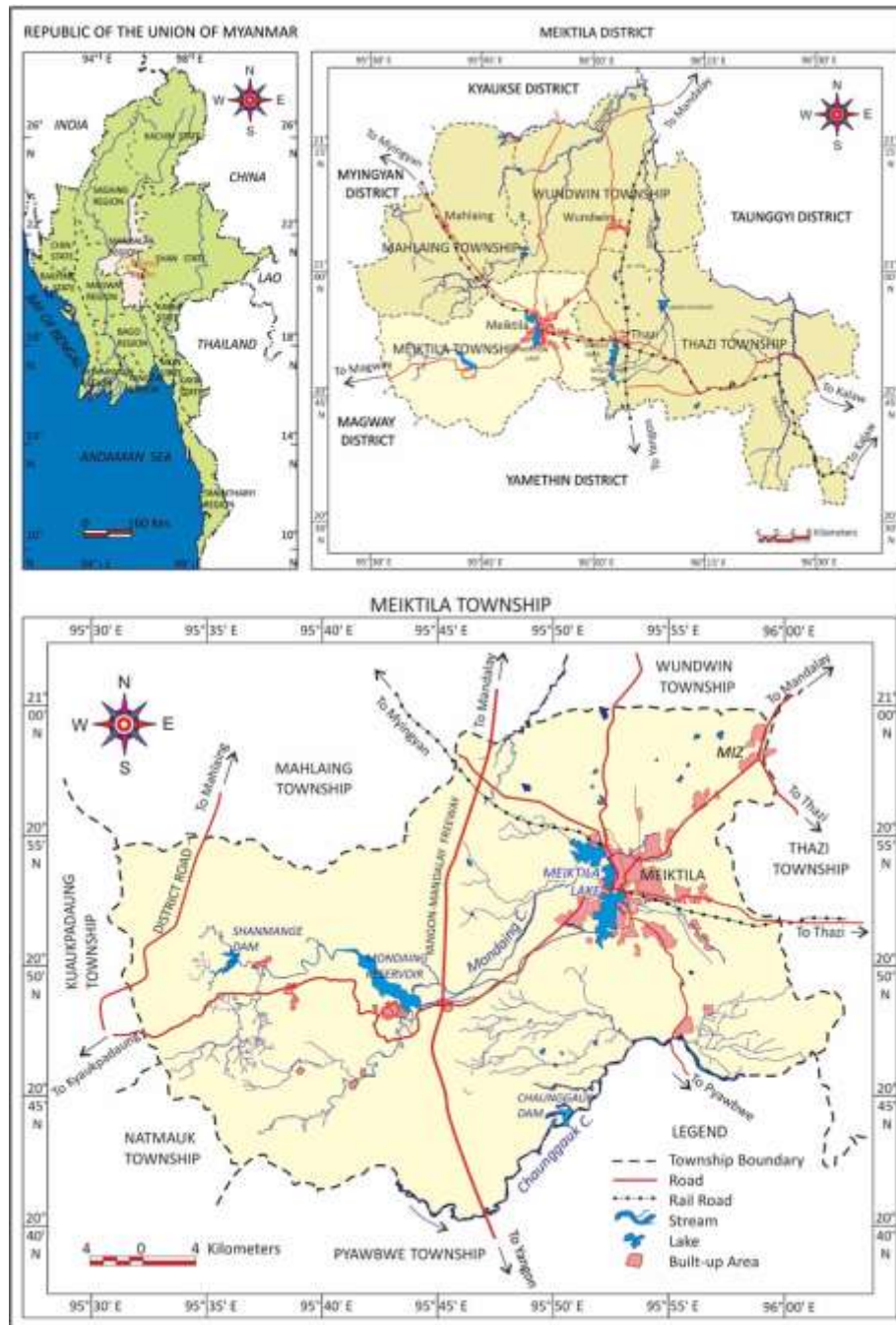


Figure 1. Location of Meiktila Township

Source: Myanmar UTM Map No.2095-9,2095-10,2095-13,2095-14 and 2096-1.

Most of the village tracts in the study area had a very low density of population. Very high populated areas were especially concentrated in the urban centres or around urban areas. Almost every village tract had at least sub-centre (i.e., primary health care centre) for health care in the township. But, by comparing to the respective population, there may not have sufficient facility of health care centres. Likewise, other facilities of health care workforce were still in shortage.

The study area is being located in the Central Plain of Myanmar and is more accessible than the other townships. There are sufficient water supply systems hand-dug wells or tube wells.

population resided in the rural area in Meiktila Township. Such amount of people could not get sufficient health care by proper methods or staffs. But midwife or health assistant is appointed to the RHC or sub-centre at village level. Therefore, for the ratio of primary medical care staffs to 1,000 population, not only physician but also dentists, nurses, midwives and health assistants are accounted for the first criterion (i.e., ratio of primary medical care staffs per 1,000 population).

Another problem is that the percentage of population with incomes below the poverty level. Since 2010, the poverty level for States and Regions of the whole country was worked out jointly by the National Planning and Economic Department, Swedish International Development Cooperation Agency (Sida), United Nations International Children's Emergency Fund (UNICEF), United Nations Development Programme (UNDP). For the year of 2012, the poverty profile and poverty level were also announced for each State and Region. But it was unfortunate that such poverty level could not be released district or township level. Therefore, to define the MUAs in Meiktila Township, the percentage of population below the poverty level was taken into consideration from Mandalay Region for rural and urban areas separately.

For the study area, the major criteria which significantly specify the MUAs are the IMR and the ratio of health care staffs per 1,000 population. The MUAs which have the IMU score of less than or equal to 50 are located at remote and inaccessible area. The weighted value for the percentage population of 65 and over is almost same to all considered health care centres. Hence, the criteria of percentage of 65 years and over and the percentage of people below the poverty level are almost constant throughout the study area. For all MUAs, the main problem is that there had no medical doctor or physician. And, the IMR rates of these MUAs were also another great problem.

Here, it is considered that the IMU score of 62 is the boundary for the MUAs and non-MUAs. That is the definition from the developed country (i.e, USA). But for Myanmar that less value of score can be assumed due to its developing character. If doing so, what score should be identified? It is more difficult for the study area in Myanmar country. Therefore, the score of 62 is accepted to demarcate the MUAs in this township. To measure social health protection coverage in the study area, criteria for designation as a HPSA or MAU's score is used and studied without changing the score.

Demarcation on the MUAs

A geographic area will be designated as having a shortage of primary medical care professionals if the following three criteria are met:

1. The area is a rational area for the delivery of primary medical care services.
2. The area has a population to full-time-equivalent primary care physician ratio of at least 3,500:1.
3. Primary medical care professionals in contiguous areas are over utilized, excessively distant, or inaccessible to the population of the area under consideration. (<http://bphic.hrsa.gov/databases/newmua/>).

The study area coincides with the above three criteria, so that it can be generally recognized as the area of shortage of primary medical care. For the grass root level analysis, the IMU scores for each health care centre was worked out and shown in the table (1). The

summations of respective weighted values are the bases to define the MUAs in the study area. According to table (1), Map (3) are prepared according to IMU scores of health care centres in township.

According to table (1), there has one township hospital, two station hospitals and six R.H.Cs. All R.H.Cs can be designated as MUAs. Among them, Shande, Mondaing and Nyaunggine R.H.Cs had been visited more than 14% of total population from their respective village tracts within a year. It is noted that more than 3500 number of patients had been relied to those R.H.Cs. But these are still MUAs in the study area. There three (Mondaing, Shande, Nyaunggine) R.H.Cs are located on the transportation route to Kyaukpadaung, Mandalay, Taunggyi, respectively and thus, they are assumed as accessible areas. Therefore, more number of patients than that of Kwetnge, Magyisu and Nyaungbin-sho R.H.Cs were consulted in Mondaing, Shande and Nyaunggine RHCs. Consequently, these accessible R.H.Cs can be appointed by a medical doctor and a dentist for the relied patients.

For Magyisu, Kwetnge and Nyaungbin-sho, the transportation facility is very poor. So that, if such infrastructural provision can be fulfilled, those areas can be free from the MUAs by appointments of health care physicians.

Table (1) The IMU Scores for each Heath Care Centres

Health Care Centres	Ratio of Physicians per 1,000 population		IMR		Below the poverty level		Age 65 and over		Total
	%	Weighted value	%	Weighted value	%	Weighted value	%	Weighted value	
Meiktila Township Hospital	0.33	7.3	10.5	24.0	14.1	17.4	7.19	20.1	68.8
Aleywa Station Hospital	0.52	14.8	12	23.2	31.6	6.6	6.71	20.2	64.8
Shanmange Station Hospital	0.65	19.1	9.5	24.8	31.6	6.6	8.31	19.9	70.4
Shande RHC	0.27	5.7	9.0	25.6	31.6	6.6	5.37	20.2	58.1
Magyisu RHC	0.36	9.0	13.9	21.5	31.6	6.6	5.12	20.2	57.3
Kywetnge RHC	0.39	9.0	18.79	16.4	31.6	6.6	9.89	19.8	51.8
Nyaungbinsho RHC	0.32	7.3	17.2	17.5	31.6	6.6	6.22	20.2	51.6
Mondaing RHC	0.30	5.7	4.44	26.0	31.6	6.6	7.49	20.1	58.4
Nyaunggine RHC	0.30	5.7	12.5	22.4	31.6	6.6	9.72	19.8	54.5

Source: Calculated by the researcher based on the field survey data

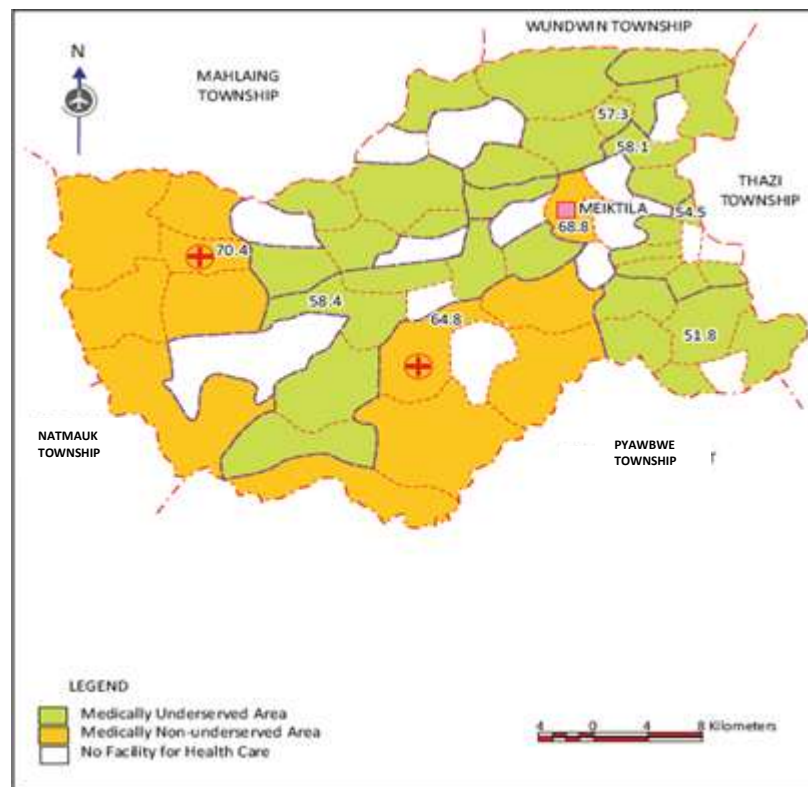


Figure. 3 IMU Scores for Health Care Centres in Meiktila Township

Source: Field Survey Data

Conclusion

Findings and Discussion.

After studying spatial distribution pattern of all considered health care centres, it can be observed that there are a greater number of sub-centres than the others in the district. But those centres are not evenly spread throughout the study area. Only township hospital and station hospital are well facilitated not only by health care staffs but also by medicines. Even though there is at least one RHC or one sub-centre which serves for a people of one or two village tracts, but it is not much reliable for the local people. Actually, the health care centres were set up by the government based on the total number of resided population for a particular area. Therefore, the areas which are in accessible and remote from the urban centres are unfavorable for health care.

All RHCs can be designated as MUAs in Meiktila Township. Among them, three centres have good accessibility because they lied on the highway to other cities. But, lack of physician or medical doctor is the major hindrance to be MUAs the remaining centres have to be provided both transportation facility and medi-care staffs to be non-MUAs. Where is the township hospital and station hospitals in the study area were non-MUAs. It was mainly due to the presence of physicians or doctors or dentists

For the study area, the major criteria which significantly specify the MUAs are IMR and ratio of health care staffs per 1,000 population. Even for the township hospitals, the IMR is quite high rather than that of some station hospital or RHC, which should be noticed by the authority

and health care staffs. Apart from that, transportation facility plays as a major determinant for MUAs in the study area.

Suggestion

Health centres should be patient-oriented and focused on improving the quality of care. Although health centres' effectiveness as providers of care to vulnerable population is well documented, the patients they serve have diverse needs and there remain disparities in health status between health centre patients and the general population. In a continued effort to reduce and eliminate these disparities, the RHC or sub-centre should be implemented a series of health disparity collaborative.

The government or the concerned authorities should develop several programme to help health centres and other providers in underserved communities to meet their workforce needs.

To achieve this goal, primary care physicians should need to be distributed fairly evenly across the study area. Several programme should provide funds to increase the number of practitioners where shortage of high-need areas.

Attracting young people to healthcare careers and encouraging health care professionals to work and stay in rural areas should be carried out. A basic premise in these efforts is that young adults from rural areas, or students, who have had positive rural experiences as part of their training, should contribute some services be most likely jobs in rural areas.

Departments of Health should promote health career education in secondary schools. Together with higher education and private agencies, they should sponsor annual conference for secondary school health careers and teachers.

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Criteria for Designation as a HPSA or MUA, Appendix C

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