EQUITY OF HEALTH CARE UTILIZATION AMONG THAI ELDERLY IN KANCHANABURI DEMOGRAPHIC SURVEILLANCE SYSTEM (KDSS)

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ABSTRACT: Thai society now faces the aging society. The health care service therefore for elderly is very important. The elderly and health situation issue is very interesting, especially since universal coverage scheme (30 bath scheme) in 2001. This study explores the equity of health care utilization by using the Kanchanaburi Demographic Surveillance System (KDSS). All results will be analyzed and evaluated by percentage, quintiles, concentration curve and concentration index. This result found that the universal health coverage can increase more access and utilization of health service among the poor elderly as pro-poor policy. It achieving the objective of universal coverage scheme. Moreover it found that the equitable of health care utilization at standard health services was in both years.

Keywords: Equity , Health Care Utilization

INTRODUCTION: The trend on number and proportions of the elderly is a basic population data which reflect the change in the size of elderly population and the rapidity of Thai ageing society when the time passed. The data from Institute for Population and Social Research (IPSR,2006) shows that either the number of total populations or the number of older persons (aged 60 years and more) or the proportions of older persons in Thailand have continually increased from the past to the present and also through the future. These numbers increased to 62.16 million in 2005 and they also expected to increase up to 65.09 million in 2025. Simultaneously, then the older persons increased to 6.42 million persons in 2005 and they also expected to increase up to 12.9 million persons in 2025. It is notable that the increasing rate of older persons is more rapid than that of the total populations.

The changing age structure of Thai population was by having rapid increasing aging rate since the previous decades had resulted from decreasing population's fertility from high to low fertility, from the past to present and low replacement rate within a short time. In the meantime, the death rate also continually decreases.

Ageing population is proceeding more rapidly in Thailand. Generally, old people have more illnesses and chronic conditions than young people. This implication reflects that the mortality and morbidity rate and health care cost of the elderly will increase proportionately.

Health care services in Thailand, particularly voluntary insurance, are yet in an early stage of development; the question of equity has been seriously addressed. Health care expenditure in the last five years has increased rapidly (Supakankunti 2000) but there is widespread debate as to whether this has been accompanied by increased quality of health care. The increase in provision of private health services has raised questions on the high cost of health care and the efficiency of resource allocation. Only high income groups could afford to access a better quality of health care. This widens the equity gap. Health care systems are by nature complex and the State needs to play an appropriate role in the health care sector. Although Thailand has a variety of health insurance schemes with objectives of financing health care costs and providing health security, a large proportion of the population, especially of lower income group, is not covered by any insurance, and the variety in health insurance schemes creates problems in terms of equity and efficiency. It is difficult to unify these schemes.

Government establishes the holistic heath integration so as to achieve the objective. All

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Thai people should have access to good health service standard on equitable basis. In Thailand health services have 3 main schemes; 1) Universal Health Coverage Card under 30 baht cures all disease projects; 2) the Health Welfare for State Employees' scheme (including the Civil Service Medical Benefit scheme, Civil Servant's Pension and Pension Fund); and 3) the compulsory Social Security Scheme for private employees in medium and large firms. This study explores that health equity across economic status among Thai elderly in Kanchanaburi Demographic Surveillance System (KDSS).

Concepts and Theories

Equity in Health Care

In a widely cited 1992 paper on The concepts and principles of equity in health, Whitehead defined health inequities as differences in health that are unnecessary, avoidable, unfair and unjust.

Equity means social justice or fairness; it is an ethical concept, grounded in principles of distributive justice (Whitehead, 1992) Equity in health can be fined as the absence of socially unjust or unfair health disparities. However, because social justice and fairness can be interpreted differently by different people in different settings, a definition is needed that can be based on measurable criteria. Equity in health is a social ultimate goal because it reflects equal health or minimized health disparities. Although health disparities are inevitable, fair or acceptable health disparity must result from unavoidable causes (WHO, 2000)

In this study, the hypothesis of equity that means poor elderly use health care utilization more than rich elderly as pro-poor. The poor elderly should use the health service more than the rich elderly because Thailand has a income distribution problem. The richest in the fifth quintile has proportion more than 50 % of total income share. It means most of Thai people is rather poor as presented in Table 1.

Table 1 : Percent of Income Share by Quintiles

Income Quintile	Income share of Population (Percent)									
	1988	**1990**	**1992**	**1994**	**1996**	**1998**	**2000**	**2002**	**2004**	**2006**
Quintile 1 (Poorest)	4.58	4.29	3.96	4.07	4.18	4.30	3.95	4.23	4.54	3.84
Quintile 2	8.05	7.54	7.06	7.35	7.55	7.75	7.27	7.72	8.04	7.67
Quintile 3	12.38	11.70	11.11	11.67	11.83	12.00	11.50	12.07	12.41	12.12
Quintile 4	20.62	19.50	18.90	19.68	19.91	19.82	19.83	20.07	20.16	20.08
Quintile 5 (Richest)	54.37	56.97	58.98	57.23	56.53	56.13	57.45	55.91	54.86	56.29
Total	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Proportion Q5/Q1	**11.88**	**13.28**	**14.90**	**14.07**	**13.52**	**13.06**	**14.55**	**13.23**	**12.10**	**14.66**

Source: office of National Economic and Social Development Board

MATERIALS AND METHODS: The Kanchanaburi Demographic Surveillance System (KDSS) data round 2 (2001) and round 5 (2004) were used. The KDSS was conducted by the Institute of Population and Social Research, Mahidol University with supported from the Wellcome Trust of the United Kingdom. This study and the samples included persons who were aged 60 and over. Only the responses the 2 surveys were included in the analysis. The elderly population in 2001 was 3,350 persons and 4,343 persons in 2004. All results will be analyzed and evaluated by percentage, quintiles, concentration curve and concentration index. For the negative value of concentration index, it means the poor elderly use health care services more than rich elderly as pro-poor.

In contrast, for the positive value of concentration index, it means the poor elderly use health care services more than rich elderly as pro-poor. For the zero value of concentration index, it means between rich elderly and poor elderly equally use health care services.

Three major reasons to select this data. Firstly, their areas classification were distinctive because the household structure can access the difference in health service use among Thai elderly in urban and rural areas. Secondly, sickness and illness of the population in this data was similar to the health status of the elderly in Thailand. Thirdly, compare to the equity in health care use among the elderly in KDSS data in both years after universal coverage scheme that has launched since 2001.

RESULTS: As shown in Table 2 in 2001, the fifth quintile has the highest proportion for the use of public health that equal 10.87 percent. It means that elderly of the fifth quintile(Q5) which is the richest elderly were prefer to the use of public hospitals more than the poorest elderly quintile (Q1), (Q5-Q1=1.67). The Q5-Q1 is the gap between the highest (Q5) and lowest (Q1) income quintiles of elderly. The Q5/Q1, which has unit equaled times, means the ratio of the richest quintile of elderly (Q5) compare to the lowest quintile of elderly (Q1). Besides, the richest elderly quintile use the private hospital more than the poorest elderly, the different between the richest elderly (Q5) and the poorest elderly quintile (Q1), Q5-Q1 equal 3.5. Nevertheless, the poorest elderly (Q1) use the health centers more than the richest elderly (Q5), Q5-Q1= -1.52. For buying own medication the richest elderly were slightly higher the poorest elderly, Q5-Q1= 0.38.

The first reason to select the use of health services is the convenient, 38.22 percent and the second reason had the welfare, 30.7 percent. For the reason of the server sickness the poorest elderly were slightly higher than the richest elderly, Q5-Q1=-0.76.

Table 2 : The use of the health services and the reasons for use by quintile at KDSS in 2001

Unit : Percent

	Quintile 1 (Poorest)	**Quintile 2**	**Quintile 3**	**Quintile 4**	**Quintile 5 (Richest)**	***Total***	**Q5-Q1**	**Q5/Q1 Unit : times**
Use of Health services								
Hospital in Bangkok	0.23	0.23	0.15	0.53	0.46	1.60	0.23	2.00
Pubic hospital	9.19	12.01	12.08	13.22	10.87	57.37	1.67	1.18
Private hospital	1.44	1.44	2.28	2.89	4.94	12.99	3.50	3.42
Health center	3.04	3.50	3.12	2.58	1.52	13.75	-1.52	0.50
Drug store	1.06	1.14	1.22	1.06	1.44	5.93	0.38	1.36
Others	1.90	1.52	0.91	0.76	0.68	5.78	-1.22	0.36
No treatment	0.76	0.61	0.61	0.38	0.23	2.58	-0.53	0.30
Total	*17.63*	*20.44*	*20.36*	*21.43*	*20.14*	*100.00*		
Reasons of use								
Cheap	0.99	1.60	1.82	1.37	1.44	7.22	0.46	1.46
Convenient	6.38	7.75	7.29	8.36	8.43	38.22	2.05	1.32
Sever sickness	1.44	0.99	0.91	0.99	0.68	5.02	-0.76	0.47
Have Welfare	4.86	7.07	6.69	6.08	6.00	30.70	1.14	1.23
Effective treatment	1.44	1.44	2.28	2.66	2.28	10.11	0.84	1.58
Believe	0.38	0.15	0.23	0.23	0.23	1.22	-0.15	0.60
Others	2.13	1.44	1.14	1.75	1.06	7.52	-1.06	0.50
Total	17.63	20.44	20.36	21.43	20.14	100.00		

As shown in Table 3 in 2004, the fifth quintile has the highest proportion for the use of public health that equal 14.55 percent higher than the richest elderly in 2001. It means that elderly of the fifth quintile were prefer to the use of public hospitals more than the poorest elderly (Q5-Q1= 4.67). Nevertheless, the poor elderly use the health centers more and the rich elderly, Q5-Q1=-1.1. For buying own medication the poorest elderly were slightly higher the richest elderly, Q5-Q1= -0.58.

The first reason to select the use of health services is the convenient, 43.64 percent and the second reason was others such as faith in doctor and in high quality of drug.

Table 3 : The use of the health services and the reasons for use by quintile at KDSS in 2004

Unit : percent

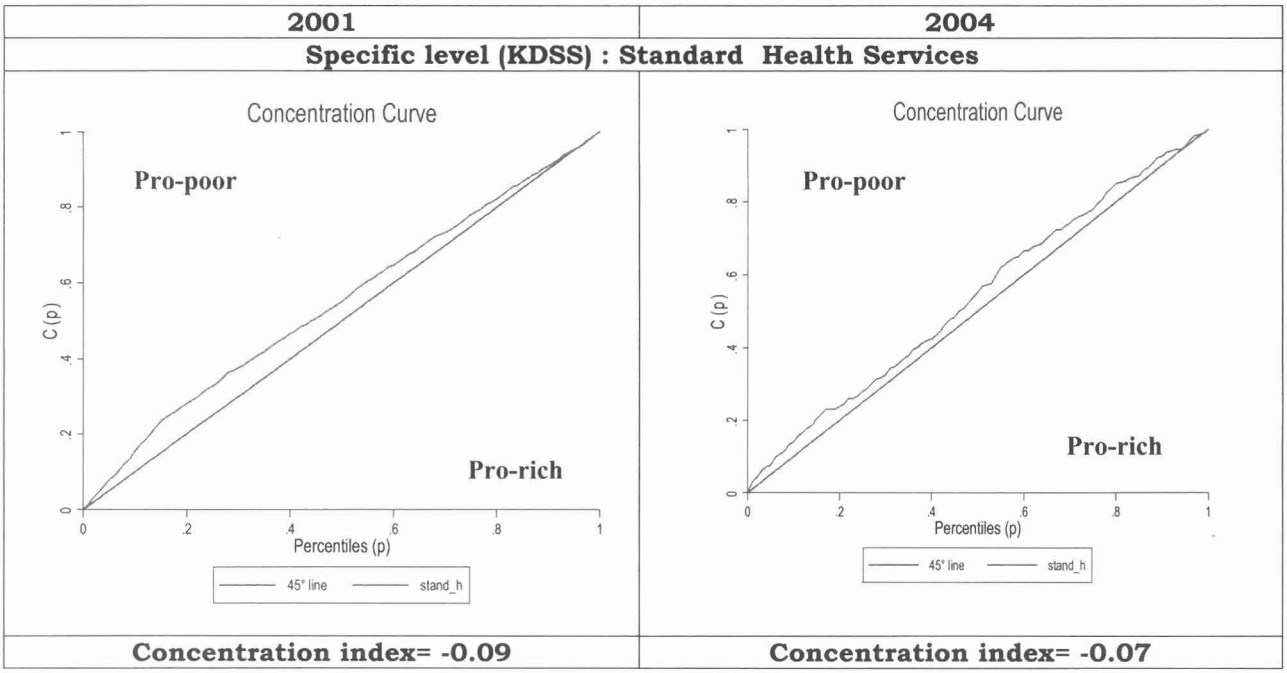
	Quintile 1 (Poorest)	**Quintile 2**	**Quintile 3**	**Quintile 4**	**Quintile 5 (Richest)**	***Total***	**Q5-Q1**	**Q5/Q1 Unit : times**
Use of Health services								
Hospital in Bangkok	0.26	0.79	0.89	0.95	1.63	4.52	1.37	6.20
Pubic hospital	10.50	11.92	13.50	13.34	14.55	63.81	4.04	1.39
Private hospital	0.79	1.26	1.94	2.57	3.99	10.56	3.20	5.07
Health center	2.31	2.52	1.94	1.63	1.21	9.61	-1.10	0.52
Drug store	1.31	1.31	0.84	1.58	0.74	5.78	-0.58	0.56
Others	1.37	1.00	0.53	0.47	0.32	3.68	-1.05	0.23
No treatment	0.74	0.47	0.26	0.21	0.37	2.05	-0.37	0.50
Total	17.28	19.28	19.91	20.75	22.79	100.00		
Reasons of use								
Cheap	2.00	1.94	1.73	2.31	1.26	9.24	-0.74	0.63
Convenient	7.56	8.04	9.19	9.98	8.88	43.64	1.31	1.17
Sever sickness	1.31	1.31	1.42	0.89	1.00	5.93	-0.32	0.76
Have Welfare	2.63	3.41	3.52	2.36	3.83	15.76	1.21	1.46
Effective treatment	0.21	0.53	0.32	0.47	1.00	2.52	0.79	4.75
Believe	0.47	0.42	1.00	0.58	1.26	3.73	0.79	2.67
Others	3.10	3.62	2.73	4.15	5.57	19.17	2.47	1.80
Total	17.28	19.28	19.91	20.75	22.79	100.00		

Assessment of equity in KDSS

Standard health services

The standard health services consist of hospitals in Bangkok, public hospitals and health centers. The negative value indicated that there was more equity using at the standard health service favoring the poor elderly in 2001 and 2004 of KDSS. The value of concentration index is -0.09 and -0.07 respectively. For the standard health services, the utilization of the poor elderly is more than the rich elderly as pro-poor as presented in figure 1 due to the 30-Baht card. The thirty bath scheme supported to reduce obstructions to healthcare service utilization such as health expenses. The 30-Baht cards were also convenient to use.

Figure 1 : Concentration curves and indexes of using at standard health services between 2001 and 2004



DISCUSSIONS: After Universal Coverage Scheme (UC), it changes in health seeking behavior of patients, which significantly shifted improvement. It is the clear objective of UC policy in promoting primary health care through resource allocation. (Tangcharoensathein et al. 2004, Tangcharoensathein et al. 2007).

Accessibility to health services depend upon the relationship between locations of services and patients, as well as other barriers to obtaining medical services (Carney, 1981).The universal health coverage (30 baht scheme) helped to reduce obstructions to healthcare service utilization such as health expenses. The 30 Baht card was also convenient to use. The elderly who had an insurance card could use healthcare services without worrying about the expenses. The universal health coverage scheme has reduced the out-of-pocket payments, especially high health payments of lower income households (Vasavid *et al.* 2005; Limwattananon *et al.* 2007).

In 2002, the universal coverage scheme was implemented to ensure that the Thai population, would have access to standardized health services and be treated equally. The universal coverage scheme ensured that the population could attempt to maintain health and get appropriate treatment for illness. The elderly could see the doctor for their health problem without worrying about the health expenses. Nevertheless, Government should directly provide health information for the people to protect their own health.

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