

**RESEARCH ON AWARENESS OF HOSPITAL MANAGERS
ABOUT CHRONIC DISEASES AND THE CARE BY
MULTIDISCIPLINARY TEAMS TOWARDS SUSTAINABLE
HEALTH CARE SERVICES IN VIETNAM**

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Abstract

This study focused on top management in health care services in Vietnam. In view of forthcoming population ageing in the country forecasted by United Nation, this study examined current awareness of the hospital managers about forthcoming population ageing, chronic diseases increased in recent decade, concerns of the families whose member suffered from stroke, and the care by multidisciplinary teams. This study received 74 respondents out of 116 hospital managers (63.79%) through a post-mailed questionnaire under quantitative method. The findings show that the overall hospital managers perceived high awareness about forthcoming population ageing and chronic diseases increased in Vietnam. In contrast, their awareness about the care by multidisciplinary teams was low. This study found that three out of 74 hospital managers (4.05%) were currently involved with stroke care by well-organized multidisciplinary teams at hospital. The driver that influenced the implementation of well-organized care by the team was assumed an external driver from downstream, psychosocial concerns of the family. Moreover, the difference of the perception about the benefits on the care by multidisciplinary teams in position of those managers was identified as well. Particularly, the chief of Rehabilitation Department perceived significantly lower about the benefits on the care by teams compared with the chief of Internal medicine or Neurology Department. However, no drivers related to the hospital managers' awareness were proved statistically. It is considered mainly due to bias involved with socially desirable answering related to cultural context of Vietnam. This study, however, strongly expects that well-organized care by multidisciplinary team can be promoted purposefully through the benchmark of three hospital managers even in the

current condition with limited human resources towards sustainable health care services in view of forthcoming population ageing in Vietnam.

Abstrak

Kajian ini tertumpu kepada perkhidmatan penjagaan kesihatan yang diberikan oleh pengawai atasan di Vietnam. Ramalan Bangsa-Bangsa Bersatu menyatakan bahawa golongan warga emas akan meningkat dan kajian ini mengkaji kesedaran pengurus hospital mengenai penyakit kronik yang dihadapi oleh warga emas pada abad ini dan juga kebimbangan ahli keluarga terhadap penyakit strok yang dihadapi dan cara penjagaan boleh dilakukan oleh pelbagai lapisan masyarakat. Kajian ini telah menerima seramai 74 orang responden daripada 116 pengurus hospital (63.79%) dengan soal selidik melalui pos di bawah kaedah kuantitatif. Kajian ini menunjukkan bahawa keseluruhan pengurus hospital mempunyai tahap kesedaran yang tinggi tentang peningkatan warga emas dan penyakit kronik yang dihadapi oleh mereka di Vietnam. Tetapi, tahap kesedaran mereka tentang cara penjagaan oleh masyarakat adalah rendah. Kajian ini mendapati bahawa tiga daripada 74 pengurus hospital (4.05%) kini terlibat dengan penjagaan strok yang teratur. Pengaruh utama pelaksanaan terhadap penjagaan warga emas ini adalah faktor psikososial terhadap keluarga. Tambahan pula, perbezaan persepsi tentang manfaat pada penjagaan oleh masyarakat di kedudukan pengurus telah dikenalpasti. Terutamanya, ketua Jabatan Pemulihan mempunyai lebih rendah perbezaan tanggapan yang signifikan jika dibandingkan dengan ketua perubatan Dalaman atau Jabatan Neurologi. Walau bagaimanapun, tidak ada pengaruh yang berkaitan dengan kesedaran pengurus hospital telah dibuktikan secara statistik. Ini disebabkan oleh berat sebelah berlaku semasa soal jawab yang berkaitan dengan konteks budaya Vietnam. Kajian ini, bagaimanapun, menjangka bahawa penjagaan yang dianjurkan oleh masyarakat boleh digalakkan dan dilaksanakan berpandukan oleh tiga pengurus hospital walaupun dalam keadaan semasa

sumber manusia terhadap kepada perkhidmatan penjagaan kesihatan terhadap warga emas di Vietnam.

Chapter 1: INTRODUCTION

1.1 Introduction

Vietnam as a country with latent possibility, its people with dexterity and ambition to make life better even under challenging condition, make it an interesting and challenging site for this study. Meanwhile, the health care services done by single-sector such as the doctor in charge or relevant department, not by teams including occupational therapist which is the occupation of the author, were the second to be rooted to the country. Since then, Vietnam has been the personal targeted country to raise awareness on health care services by teams with doctors, nurses, and other professionals including occupational therapists to entire this nation. The five years with hands on experience in the health care sector provided the author with a clear insight of which sector was prioritized to promote the care by teams. In this case, treatment for chronic diseases was identified as important. Thus, the study focuses on the promotion of the care by teams on chronic diseases.

Innovation on health care in Vietnam always starts at the top, a director of every single hospital under the relevant policy. This assumption was more unwavering underpinned by the findings, such as “Real change has to come from the top. (p.1)”(Field, 2007), and “Commitment from the highest level was a critical element of success. (p156)” (Esty & Winston, 2006). Thus, this study focused on the top management in health care services and the acceptance and efficiency of the care by teams in Vietnam.

1.2 Background of the Study

The country, Vietnam, has proceeded with steady economic growth since the launch of “Doi Moi (renovation)” in 1986. This rapid economic growth has led to improved life expectancy of 72.8 years old, and to sharpen falls infant mortality rate of 16% in 2006 from 30% in 2001 as well as under-five child malnutrition of 18.9% in 2009 from 25.5% in 2005 (Ministry of Health of Vietnam, 2010). Those health-related outcomes truly proved the right track to achieve the Millennium Development Goals of Vietnam by 2015 as well as reliable roadmap toward the policy goal of the country, to become an industrialized country by the year 2020 (Vietnam Government Portal, 2006).

Meanwhile, the United Nations (UN) forecasted that ageing population would be predominant in Vietnam (United Nation, 2008). In the UN World Population Prospects, Vietnam will have 12.3 percentage aged of 60 years old or over in 2020, and 18.2 in 2030 (Figure 1.1). Those were the footprints which Japan experienced in 1978 and in 1993 respectively.

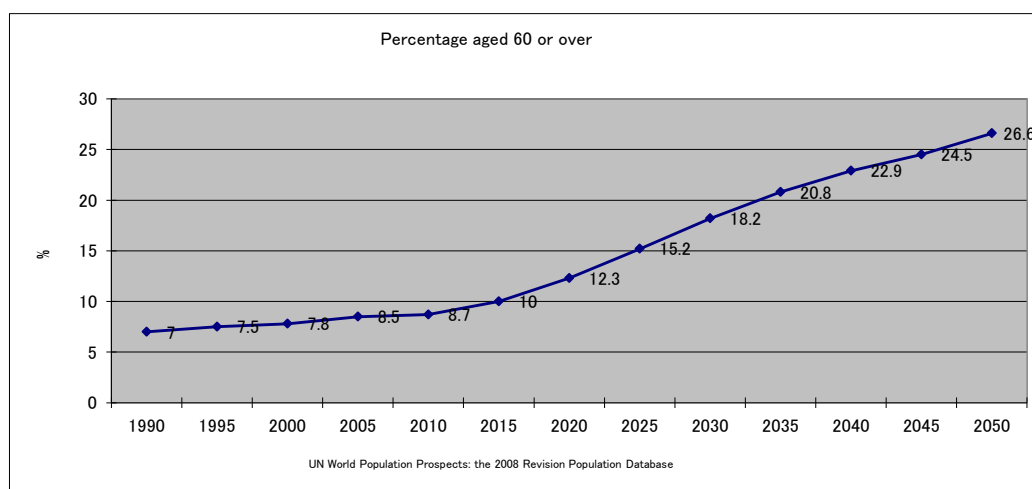


Figure 1.1, The UN World Population Prospects of Vietnam

Source: UN World Population Prospects: The 2008 Revision Population Database, 2008

It is estimated that Vietnam is going to face faster population ageing even by comparison of the speed which Japan has done. The forthcoming population ageing of Vietnam would be ranked following Singapore and Thailand among ASEAN countries. It is readily imagined that Vietnam will receive similar challenges stemmed from ageing as Japan has been struggling since 1990s. Indeed, chronic diseases such as cardiovascular diseases, cancer, chronic respiratory diseases, and diabetes have already become top ten causes of death in Vietnam in 2002 due to industrialization and motorization (World Health Organization, 2006).

Currently, health care services in Vietnam have extremely improved under numerous domestic as well as foreign projects since 1970s. Some of the high-ranked governmental hospitals in urban cities such as Hanoi and Ho Chi Minh Cities have been implementing well-managed services. Those hospitals have actively involved with numerous projects and activities tied by various foreign governmental and non-governmental organizations parallel with sincerely managed overloaded number of patients every day. The services particularly targeted chronic diseases, however, generally seem to be proceeded by single-sector such as the doctor in charge or the relevant department, not by teams with other medical professionals, as mentioned earlier. Its plans on chronic disease might not cover the needs of those with disabilities at home, in their jobs, or/and in community(Hayashi, 2010). Under such circumstances, Japan International Cooperation Agency (JICA) conducted the grass-root project to support social participation of those suffering from chronic diseases at one of the three highest-ranked governmental hospitals, the Cho Ray Hospital, in Ho Chi Minh City collaborated with a university in Japan in 2006 until 2008

(Hayashi, 2010). The Cho Ray Hospital continuously has taken responsibility to train other high-ranked governmental hospitals in southern Vietnam particularly focusing on medical rehabilitation service for chronic diseases under the JICA technical project collaborated with an expert dispatched from Japan since 2010.

Regarding the care by teams, the World Health Organization (WHO) stated below on the website of the Integrated Response of Health Care Systems to Rapid Populations Ageing (INTRA).

As populations age and live longer, chronic diseases became increasingly prevalent. Older persons with complex pathologies and conditions will require multiple sources of care to meet their health care needs... The provision of multidisciplinary health-care teams can be a highly effective approach to improving chronic disease care. (p.1)

Moreover, the Canadian Stroke Network and the Heart and Stroke Foundation of Canada (2011) recommended that the core interdisciplinary team should consist of appropriate levels of medical, nursing, nutrition, occupational therapy, physiotherapy, social work and speech-language pathology staff. On the other hand, the WHO pointed out as well that multidisciplinary and intensive rehabilitation programmes, common in high income countries, were typically not feasible in low and middle income countries owing to shortages of health workers and other resource constraints (WHO Global Report, 2005).

Standing on sustainability context of health care services in view of forthcoming population ageing in Vietnam as well as consideration of remained eight years to the country goal “Be an industrialized country by 2020”, it is not too early to incorporate sustainable health care services into current treatment of chronic diseases in Vietnam. Berns et al (2009) showed in the global survey on sustainability that there is a strong consensus that sustainability is having – and will continue to have - a material impact on how companies think and act. More than 92 percent of survey respondents said that their company was addressing sustainability in some way, such as defined sustainability, understood impact with sustainability-related issues, and addressed sustainability strategies in their organization. On the contrary, below was added as well (Berns, et al., 2009).

Although almost all the executives in the survey thought that sustainability would have an impact on their business and were trying to address this topic, the majority also said that their companies were not acting decisively to exploit the opportunity fully and mitigate the risks that sustainability present... More than 70 percent of survey respondents said that their company has not developed a clear business case for sustainability. (p. 3)

It might not be easy to promote sustainable health care services in Vietnam. However, this study intended to investigate current awareness of the hospital managers about forthcoming population ageing of Vietnam, chronic diseases and the care by multidisciplinary teams in order to consider the feasible strategy to promote sustainable services in Vietnam.

1.3 Problem Statement

Vietnam was forecasted to face faster population ageing in coming decades than done in developed countries, according to the UN (2008), whereas its economic growth has been increasing since 1986 toward the country goal of being an industrialized country by 2020. Health status in its country has improved remarkably such as longer life expectancy and sharpen falls infant mortality rate following steady economic development. Meanwhile, chronic diseases such as stroke has been increasing in recent decade in whole Vietnam due to globalization of the trade and products, lack of health care capacity to prevent, and so on. The health care services of chronic diseases have been provided by conventional methods such as by a doctor in charge even in high-ranked governmental hospitals in urban area although the care by teams has been recommended globally under complex needs of those who suffered from its chronic diseases.

As mentioned earlier, it is strongly assumed that any innovation on health care services in Vietnam starts at the top. Thus, this study examined current awareness of the hospital managers about forthcoming population ageing in Vietnam, chronic diseases, and the care by multidisciplinary teams in order to consider the feasible strategy to the promotion of sustainable health care services in view of forthcoming population ageing in Vietnam.

1.4 Research Questions

This study intended to understand the following research questions:

- (a) How are the hospital managers aware of forthcoming population ageing in Vietnam?

- (b) How do the hospital managers understand chronic diseases, and the psychosocial concerns of the families whose member suffered from stroke before being discharged of the hospital?
- (c) How do the hospital managers perceive the benefits of multidisciplinary teams by the Stroke Unit?
- (d) What are the psychosocial concerns of the families whose member suffered from stroke at being discharged of the hospital?
- (e) What intrigues hospital managers to incorporate multidisciplinary teams into current practice at their hospitals?

1.5 Research Objectives

This study attempted to accomplish the following objectives.

- (a) To examine the extent of the awareness of the hospital managers about forthcoming population ageing in Vietnam influences to implement multidisciplinary teams particularly for stroke care.
- (b) To examine the extent of the understanding of the hospital managers about chronic diseases influences to implement multidisciplinary teams particularly for stroke care.
- (c) To examine the extent of the perception of the hospital managers about the benefits of multidisciplinary teams particularly at Stroke Care Unit influences to implement multidisciplinary teams particularly for stroke care.
- (d) To determine the most psychosocial concerns of the families whose member suffered from stroke at being discharged of the hospital.

- (e) To determine the most influenced driver among possible factors to promote or/and implement multidisciplinary teams for sustainable health care services in view of forthcoming population ageing in Vietnam.

1.6 Definition of Key Term

In order to stand on common ground to understand the concepts in this study, the key term “chronic diseases” was specifically referred the followings based on the terminology by the WHO (WHO Global Report, 2005):

- 1) The chronic disease epidemics take decades to become fully established - they have their origins at young ages.
- 2) The chronic diseases are given their long duration, there are many opportunities for prevention.
- 3) The chronic diseases are required long-term and systematic approach to treatment.
- 4) Health services must integrate the response to these diseases with the response to acute, infectious diseases.
- 5) The main chronic diseases are cardiovascular diseases, which are mainly heart disease and stroke, cancer, chronic respiratory diseases, and diabetes.

The term “multidisciplinary teams” was partly referred from the findings in the article on conceptual framework on integrative health care (Boon, Verhoef, O'Hara, & Findlay, 2004).

- a) It had four key components, philosophy/values, structure, process and outcomes. Philosophy/values composed increased diversity from different disciplines, and variety of determinants of health. Structure consisted of increased number of viewpoints, and

trust and respect among the team members. Process required communication between and among individuals based on respect for diversity of opinions and on consensus-based decisions. Outcomes focused more on multiple aspects of well-being, and more cost-effective in the long term through assessing patient-defined outcomes.

- b) Some other researchers utilized “Interdisciplinary” as more ideal health care team than “ multidisciplinary” (Dyer, 2003; Hall & Weaver, 2001). However, this study used only the term “multidisciplinary” following the term used by the WHO.

1.7 Significance of the Study

This study expects to contribute to health policy makers of Vietnam as well as public and private health care sectors operating in Vietnam as following respective reasons.

- a) To health policy makers

To raise awareness on sustainable health care services especially by multidisciplinary teams particularly targeted chronic diseases in view of forthcoming population ageing.

- b) To public and private health care sectors operating in Vietnam

To promote the development of sustainable health care services especially by multidisciplinary teams for the treatment of chronic diseases interconnected with the relevant medical professionals, departments, and sectors in view of forthcoming population ageing.

1.8 Organization of the Remaining Chapters

This study consists of five chapters. The first chapter provided background of this study as well as problem statement and research questions. The second chapter presented the review of literatures involved with the key topics of this study. The third chapter illustrated theoretical framework, hypothesis development as well as research design of this study. The fourth chapter showed sufficiency of data analysis, and corrected interpretation of the results. The fifth chapter explained answers research questions and comparison with literatures as well as limitation, recommendation for future research, and conclusion of this study.

Chapter 2: LITERATURE REVIEW

2.1 Introduction

This chapter provides the review of the literatures involved with key topics of this study; ageing in the world, global health care services for the elderly, chronic diseases and the care by multidisciplinary teams, and current health care services and researches in Vietnam. Conclusively, this literature review could not reach any previous researches or articles focused on multidisciplinary team itself or the treatment of chronic diseases by the teams in Vietnam, whereas the forthcoming population ageing and increased number of chronic diseases in Vietnam have already been incorporated into the policy of the country.

2.2 Ageing in the World

Rapid, large and ubiquitous growth on ageing in the world population has never been seen in the history of civilization (United Nation, n.d.). One out of every ten persons is now 60 years or above; by 2050 one out of five will be, and by 2150 one out of three (United Nation, n.d.). The UN Population Ageing and Development (2009) has shown that 737 million persons were aged 60 years or over, and the number is projected to increased to 2 billion in 2050. Most concernedly, the UN (n.d.) pointed out that the tempo of ageing in developing countries is more rapid than in developed countries, therefore, developing countries will have less time than the developed countries to adapt to the consequences of population ageing. In addition, more than half of the older population (54 per cent) lives in Asia. Japan truly covers a big part of its population as the most population ageing country (30 per cent) in the world. According to the data by the UN (2009), the population aged 60 or over in South East Asian countries are pretty low currently, 8 per cent in Malaysia, 11

per cent in Thailand, and 9 per cent in Vietnam. However, in 2050 those will be estimated up to 22 per cent in Malaysia, 26 per cent in Thailand, and 27 per cent in Vietnam. Those numbers are the very ones which Japan experienced in 2000 to 2006.

Under unprecedented ageing entire world, the UN has conducted numerous meetings, reports and programs since 1982. Nevertheless, most countries especially under low - and middle-income consistently have been focusing on population control to minimize the expansion of their populations. In the long-term by 2050, the global population is expected to be stabilized (at about 9.3-9.6 billion) (Rogers, Jalal, & Boyd, 2008). Indeed, Japan has already decreased the total population since 2010, Korea will start decreasing from 2025, China from 2030, Singapore from 2035, and Thailand from 2040 (United Nation, 2008). China has launched several actions following population ageing started since 1990s, such as short-term gerontological training to the government staff of all the levels, long-term training provided by the universities to under- and post-graduate students, and nation-wide gerontological researches since the beginning of 21st century (Lu, 2009). Malaysia has well prepared for forthcoming population ageing despite its much slower speed than other ASEAN countries. Several researches on ageing have already conducted collaborated with the WHO and foreign governments. Numerous projects have been planned under the National Policy for the Elderly (NPE) established in 1995, and gerontological trainings such as Aged and Ageing course provided by the Universiti Putra Malaysia (UPM) have already launched since 1980 (Rashid, 2009).

Needless to say, the countries covered by greyer have struggled with various kinds of issues economically, socially and environmentally over the last two decades. Japan, running the top of population ageing in the world, is forecasted a strong possibility that the decline and aging of the nation's population will reduce the growth of productivity in Japanese economy although its productivity growth rate will not reach a continuing negative level until the first half of the 2020s (NIRA Report, 2010). Recently, Japan has faced uncountable challenges, such as social and environmental issues as well as inactivated economy due to reduction of productivity and boosted health care expenditure. For example, early retirement for taking care of their parent with disabilities living alone leads loss of skilled workers. Stagnation of forestry industry stemmed from depopulation accelerates extinction of numerous mountain villages in the entire of Japan. Serious forecast on its extinction shows us that about 500 mountain villages could become extinct within 10 years, and about 2,000 more could be extinct in the future in Japan due to population ageing (Nishino, n.d.).

Some researchers, on the contrary, introduced positive aspect of population ageing such as business opportunity targeted retired "baby-boomers" generation who intended to spend (Birchall, Guerrero, & Duyn, 2007). However, progress in extending lifespan will continue to depend on fighting specific diseases such as cancer, Alzheimer's and heart disease individually as well as depend on adjusting pension and health care system nationally (Cohen & Cookson, 2004).

2.3 Global Health Care Services for the Elderly

In global level, the issues regarding ageing have already been discussed and surveyed, such as national policies and programmes, income security, social security, active participation of community, poverty, access to health care services, housing and the living environment and so on (United Nation-Economic and Social Communication for Asia and the Pacific, 2007). Among those, the issues related to health care services are assumed to be more concerns not only for the elderly and their families but also for all the generations. Below shows its viewpoint (WHO-Ageing and Life Course, n.d.):

A common view of population ageing is that it will place an unprecedented demand on social and health care systems that will need to be paid for by a falling number of working age people. This would place a significant brake on the economic development of all countries. (p.1)

The WHO Active Ageing Approach (n.d.) has encouraged the following strategies targeted all of the two billion older people who will be alive in 2050; (1) Prevention of chronic disease, (2) Access to age-friendly primary health care, and (3) Creation of age-friendly environments. Based on those strategies, the WHO has developed the project named INTRA in 2001 (WHO-Ageing and Life Course, n.d.). This project is underpinned the statement by the UN (n.d.), mentioned in Section 2.2; the tempo of ageing in developing countries is more rapid than in developed countries, therefore, developing countries will have less time to adapt to the consequences of population of ageing. In three phases of INTRA project instructed by the WHO, many Asian countries such as Malaysia, Korea,

Thailand, China (Shanghai), India, Sri Lanka, and Pakistan, have already joined empirical research focused on sustainable primary health care policy development following rapid population ageing (WHO-INTRA 2, 2005; WHO-INTRA Korea, n.d.; WHO-INTRA Shanghai, 2004; WHO-INTRA Thailand, n.d.).

Besides the INTRA project, the WHO has conducted several projects collaborated with other organizations, and released those outcomes as publications, such as a long-term care future tool-kit to help policy makers and stakeholders consider the future of long-term care in their countries, and the global survey on geriatrics in the medical curriculum to advocate strongly that all future medical doctors need to be well trained in care of older persons in view of forthcoming population ageing (WHO-Ageing and Life Course Programme, 2002; WHO-Collection on Long-Term Care, 2002). Meanwhile, smart technologies such as telemonitoring and telecare were also introduced to utilize as supplement available for scarce professional resources as well as the tools to enable elderly people to maintain a safe, active and independent lifestyle (Layzell, Manning, & Benton, 2009).

2.4 Chronic Diseases and the Care by Multidisciplinary Teams

Chronic diseases, known as non-communicable diseases as well, are told to be a new frontier in the fight to improve global health (UN-General Assembly, 2011). The diseases are now the most frequent causes of death in all regions of the world except Africa. The WHO Chronic Disease and Health Promotion (n.d.) pointed out that chronic diseases become increasingly prevalent as populations age and live longer. Chronic diseases such as heart disease, stroke, and cancer are the leading causes of mortality in today's world both in

the developed and developing countries. 60 per cent of all deaths all over the world are due to chronic diseases, and surprisingly, 80 per cent of its chronic diseases deaths occur in low- and middle-income countries although the diseases have traditionally afflicted mostly high-income populations.

The diseases most affecting the developing world and lower-income populations are strongly linked to poverty, lack of education and other social determinants (UN-General Assembly, 2011). Unplanned urbanization, ageing populations, globalization of trade and product marketing, particularly for tobacco, alcohol and food, lack of health-care capacity or social protection system were all pointed out to increase the risk factors of chronic diseases in those lower-income countries in future. Indeed, death rates stemmed from the chronic diseases were higher in low-and middle-income countries than in high-income countries across all age groups (Figure 2.1). Lower and upper middle-income countries had higher rates of childhood obesity than high-income countries, and highest smoking rate among men was found in lower middle-income countries. The highest rates of high blood pressure were seen in Africa. The percentage of global cancer rates attributable to a few treatable chronic infections was substantially larger in low-income countries than in high-income countries (UN-General Assembly, 2011).

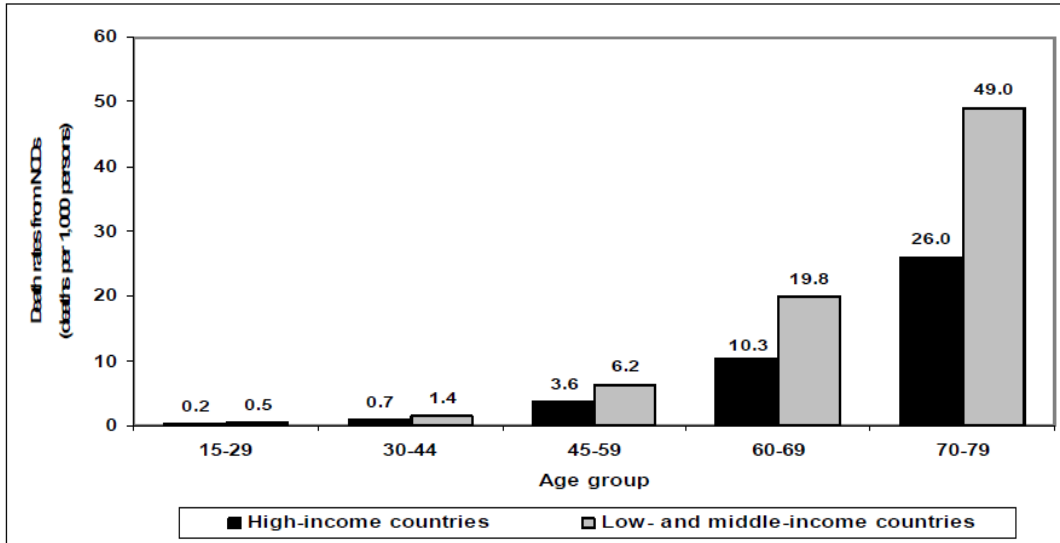


Figure 2.1, Death rates from non-communicable diseases in high-income and in low- and middle-income countries, 2008

Source: WHO, The Global Burden of Disease: 2004 Update

Socio-economically, the UN-General Assembly (2011) stated the following incredible facts; (1) blue-collar workers have significantly higher levels of cancer, and female blue-collar workers have a higher incidence of metabolic syndrome, compared with female white-collar workers, (2) obesity is higher among women with lower-income levels, (3) heart diseases and diabetes are more prevalent among immigrants and indigenous peoples in certain countries, (4) tobacco use, hypertension, physical inactivity and alcohol use are more common among people with lower educational achievement, (5) lower education levels and urban residency are associated with an increased risk of diabetes, whereas cardiovascular mortality rates decreased among educated people compared with those without formal education, and (6) poor people are more likely to smoke and are at greater risk of being exposed to chronic diseases such as second-hand smoke, harmful alcohol use, and suffering from asthma. Such educational disparities seen in chronic diseases were clearly proven by the researchers; persons without a high-school education lost 12.8

potential life-years per person in the population, compared with 3.6 for persons who graduated from high school, prior to 75 years of age per person. Ischemic heart disease contributed most (11.7 percent) to educational disparity in life-years lost (Wong, Shapiro, Boscardin, & Ettner, 2002).

The WHO addressed 10 widespread misunderstandings about chronic diseases (WHO Global Report, 2005). Some of those were followings; (1) chronic diseases mainly affect high-income countries, (2) low- and middle-income countries should control infectious diseases before chronic diseases, (3) chronic diseases mainly affect rich people, (4) chronic diseases mainly affect old people, (5) chronic diseases affect primarily men, (6) chronic diseases are the result of unhealthy “lifestyles”, (7) chronic diseases cannot be prevented, (8) chronic disease prevention and control is too expensive. Under those widespread misunderstandings, the action plan was launched to prevent and control the four noncommunicable diseases such as cardiovascular diseases, diabetes, cancers and chronic respiratory diseases, and the four shared risk factors such as tobacco use, physical inactivity, unhealthy diets and the harmful use of alcohol (WHO 2008-2013 Action Plan, 2008).

Economic impact by chronic diseases was pointed out as well (UN-General Assembly, 2011; WHO Global Report, 2005). The diseases caused not only full-income losses to the individual suffering from the diseases, but also a major component of health-care system expenditures to any countries in the world. Reduction of productivity and increase of health-care costs, thereby weakening of national economic development due to long-term

care required of the chronic diseases were clearly stated. Furthermore, chronic diseases affect loss of national income and annual reduction in GDP of any countries. According to the WHO Global Report (2005), the United States' total health-care costs on heart disease increased from US\$ 298.2 billion in 2000 to US\$ 351.8 billion in 2002. The United Kingdom spent 6 percent of National Service revenue for heart disease alone in 1994 to 95. Australia estimated that stroke was responsible for about 2 percent of the country's attributable direct health-care costs. Japan has been facing a big challenge to manage rapid growth of the expenditures due to elderly health-care particularly involved with the chronic diseases (Yoneda, et al., 2003).

Although chronic diseases are global problems, but there are not clearly emphasized in the Millennium Development Goals (MDGs). The UN-general Assembly (2011) addressed that the prevention of the chronic diseases would effect to Goal 1 (on poverty and hunger), Goal 2 (on universal primary education), Goal 4 and 5 (on child and maternal health), Goal 6 (to combat HIV/AIDS), and Goal 8 of MDGs (to develop a global partnership for development). Under such consideration, the UN-General Assembly held a high level meeting on chronic diseases in New York on September 19 and 20 in 2011 in order to address the prevention and control of the diseases worldwide, with a particular focus on developmental and other challenges and social and economic impacts, particularly for developing countries.

The care of chronic diseases at hospitals using multidisciplinary teams has already been recommended by the organizations in the world (Canadian Stroke Network and Stroke Foundation of Canada, 2011; WHO Global Report, 2005). Working as a health team was firstly addressed in the Declaration of Alma-Ata International Conference on Primary Health Care by the WHO and the UNICEF in 1978, whose historically valuable goal was “Health for All by year 2000”. The team in its declaration was aimed to respond to the expressed health needs of the community. Currently, the health care services by teams have become a norm in some middle- and all the high-income countries. It is stemmed from complex pathological conditions of the individuals as well as broadened needs of those, such as physical, psychological, social and economical concerns following population ageing (Boon, et al., 2004; Fennell, Das, Clauser, Petrelli, & Salner, 2010; Hall & Weaver, 2001; Molleman, Broekhuis, Stoffels, & Jaspers, 2010). However, the care by team is still challenging or demanding commitment for health care providers because of many conflicts remaining among each discipline, time and effort consuming to work as a team under more specialized practices as well as professionals (Hall & Weaver, 2001; Molleman, et al., 2010). Thus, the researches and surveys have been conducted to find the key components to make teams effective (Bosch, et al., 2009; P. Langhorne & Pollock, 2002; Lemieux-C & McGuire, 2006; Leys, Ringelstein, Kaste, & Hacke, 2007; Mudge, Laracy, Richter, & Denaro, 2006; Schouten, et al., 2008). For examples, enhancement of the clinical expertise was proved as a potentially effective component of improving the impact of patient care team whereas the added value of coordination functions remained unclear (Bosch, et al., 2009). The type and diversity of clinical expertise involved in team decision making largely accounted for improvements in patient care and organizational effectiveness (Lemieux-C & McGuire, 2006). Several team characteristics were also proved to influence team

effectiveness as important determinants of success in quality improvement strategies, such as composition, collaboration, stability, time allotted for the various tasks, having a team leader, and specialist clinical leadership (Schouten, et al., 2008).

The medical fields by teams have been widely spread to many types of illnesses, such as acute stroke care, heart failure management, infectious disease, palliative care, diabetes team, psychiatry team, nutrition team, orthopedic team, rehabilitation, psychogeriatric team, and geriatric consultation (Bosch, et al., 2009). Among those, this study targeted stroke care especially in acute setting, such as at Stroke Unit at hospital. Stroke is a disease of the brain caused by interference to the blood supply, and stroke and heart disease are the main cardiovascular diseases (WHO Global Report, 2005). As seen in Figure 2.2, cardiovascular diseases were the top cause of deaths even among the other chronic diseases in entire world in 2005. Additionally, the diseases were the leading contributor, among the chronic diseases, to the global burden of disease (Figure 2.3).

Projected global deaths by cause, all ages, 2005

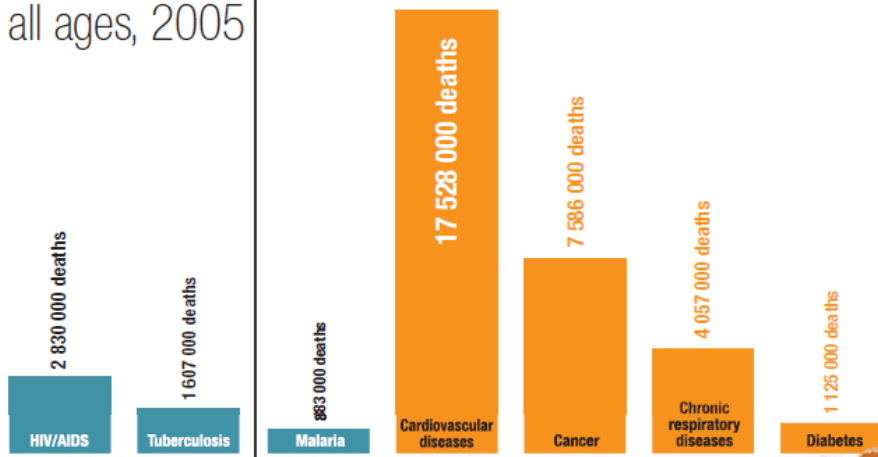


Figure 2.2, Projected Global Deaths by Cause, all ages, 2005

Source: WHO Global Report, 2005

Projected main causes of global burden of disease (DALYs), worldwide, all ages, 2005

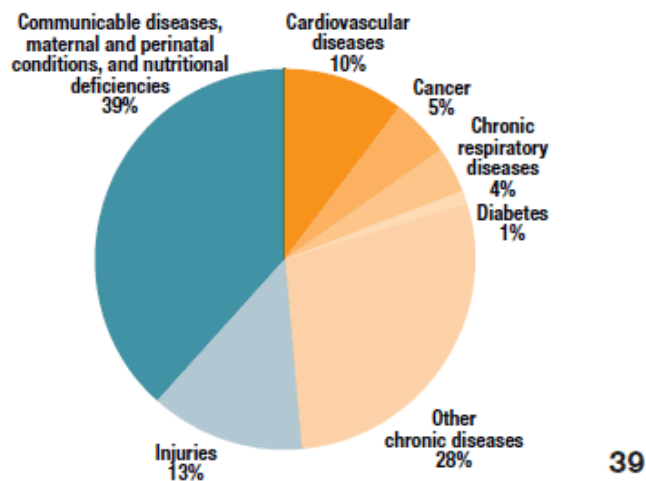


Figure 2.3, Projected Main Causes of Global Burden of Disease (DALYs), worldwide, all ages, 2005

Source: WHO Global Report, 2005

The burden involved with stroke comes from various types of disabilities even after acute treatment, such as walking difficulty and hand inability due to unilateral motor or/and sensory deficits, or cognitive dysfunctions such as speaking difficulty or lower attention (Canadian Stroke Network and Stroke Foundation of Canada, 2011). Thus, stroke causes several social issues not only to the individuals suffering from it but also their families or caregivers, in terms of managing daily activities at home, returning to their jobs or roles, and maintaining independent life in community. Meanwhile, stroke is no more a death threatened disease because of advanced acute treatment as well as well-developed follow-up systems served in community particularly in middle- and high-income countries. Therefore, it is necessary for stroke care to be served by diversified health care professionals as well as the service systems in order to meet their various needs in their longer living with disabilities. Otherwise, stroke causes financial burden not only to the individuals and their families or caregivers, but also to the society and the nation at large.

Numerous researches focused on stroke have been conducted to find the cost-effective treatment and to minimize the lengths of hospital stay for health care organizations as well as to minimize preventable complications and to enhance independence in functional activities for stroke survivors. The multidisciplinary teams were recommended as the care which solved the above-mentioned issues. The following benefits of its multidisciplinary teams have been proved in previous researches; (1) Increase 180-day survival, (2) Decrease length of hospital stay, (3) Increase discharge rate without complications, (4) Decrease readmission rate, (5) Reduce the decline of patient's function, (6) Decrease minor complications of patients, (7) Transfer from the intensive care unit (ICU) to the stroke unit

earlier, (8) Decrease anxiety or sleeping problem of patients, (9) Increase satisfaction of patients and their families, (10) Reduce resource utilization and hospital costs, and (11) Increase value-added contributions by team member (Bosch, et al., 2009; Brewer & Williams, 2010; Evans, Harraf, Donaldson, & Kalra, 2002; Hogan & Fox, 1990; Peter Langhorne, et al., 2005; P. Langhorne, Williams, Gilchrist, & Howie, 1993; Lincoln, Walker, Dixon, & Knights, 2004; Mudge, et al., 2006; Schouten, et al., 2008; Sulter, Elting, Langedijk, Maurits, & Keyser, 2003; Zhu, et al., 2009).

Besides those benefits on stroke care by multidisciplinary teams, the management on those teams were clearly prescribed (Canadian Stroke Network and Stroke Foundation of Canada, 2011). Some of those in the setting of acute stroke care are below:

- 1) The core interprofessional team on the stroke unit should consist of healthcare professionals with stroke expertise from medical, nursing, occupational therapy, physiotherapy, speech-language pathology, social work, and clinical nutrition (p.85).
- 2) The interprofessional team should assess patients within 48 hours of admission to hospital and formulate a management plan (p.85).
- 3) Clinicians should use standardized, valid assessment tools to evaluate the patient's stroke-related impairments and functional status (p.85).
- 4) Stroke unit teams should conduct at least one formal interprofessional meeting per week to discuss the progress and problems, rehabilitation goals, and discharge arrangements for patients on the unit. (p. 103).