THE CONCEPT OF DISTRICT HEALTH MANAGEMENT IN MALAYSIA

Liyanatul Najwa Z.1,2, Nadiatul Ima Z.1,2, Wan M.K.1,2, Noor Haslinda I.1,2, Intan Syafinaz S.1,2, Hasneezah H.1,2, VC Anuratha S.1,2, Hafeez I.1,2, Faisal I.1, *Rosliza A.M.1.

1Department of Community Health, Faculty of Medicine and Health Sciences, Universiti Putra Malaysia.
2Ministry of Health, Malaysia

*Corresponding author: Rosliza Abdul Manaf; Email: rosliza_abmanaf@upm.edu.my

ABSTRACT

Background: In Malaysia, public health services sector are administered by the Ministry of Health through its central headquarters to the state and district offices. The District Health Offices particularly manage and coordinate the delivery of an effective, efficient and affordable health services in the districts throughout Malaysia.

Materials and Methods: The information and statistics used in this article are based on the data collected from reports, articles, and publications by the Ministry of Health Malaysia and journals published pertaining to the District Health Management in Malaysia.

Result: A District Health Office is entrusted with two major roles; to deliver public health services and to manage resources within a district. Led by a Public Health Physician, it acts as a body to oversee the execution of the national health policies and strategies at the ground level and serves to enforce existing health related legislation. It is also responsible in disease monitoring and surveillance and also the achievement of specific health indicators for each activity. There are six major services provided by the District Health Office, namely the Family Health, Disease Control, Occupational Health, Food Quality Control, Health Education, as well as Environmental Health and Water Supply Services.

Conclusion: A District Health Office functions as the basic operational level in Malaysia healthcare system. Being the backbone in government healthcare system, it is essential to provide a well organised and integrated health service in delivering quality healthcare services to the population.

Keywords: district health, health services, health management, Malaysia, Public Health Physician
1.0 INTRODUCTION

Malaysia’s healthcare system is a structured and hierarchical system under the control of the Ministry of Health (Nguyen, Naguib, Abd Ghani, Bali & Lee, 2008). Administratively, it consists of National, State Health Departments and District Health Offices (DHO). In each state, DHOs are distributed according to its geographical boundary. A DHO is responsible as the basic operational level in the healthcare system. It mainly acts as a network of primary health care facilities that delivers a comprehensive range of promotive, preventive and curative health care services to a defined population with active participation of the community and collaborative efforts of both the district hospital and DHO. The main objective of this article is to provide a general overview of the concept of District Health Management in Malaysia including the functions and services that are provided.

2.0 MATERIALS AND METHODS

The information and statistics used in this report are collected from reports, articles, journals and other publications related to district health management in Malaysia that was published by Ministry of Health (MOH) Malaysia, academic institutions and international organizations such as the World Health Organization (WHO). The available literatures were accessed using both online computerized databases and manual searches.

3.0 RESULTS

In this section, the evolution of District Health Services in Malaysia was explained followed by a general overview of the DHO including its roles and functions. Various services provided by a DHO were summarized, followed by an account of all the monitoring and surveillance programs and application of health information system in its management. The last section discusses the challenges and limitations encountered by DHOs in delivering healthcare to the community.

3.1 Evolution of District Health Services In Malaysia

The history of health care in Malaysia started long before Malaya was declared as an independent country. Not much is known about those early days but it is thought to be a provision concentrated mainly on Malay traditional medicine which is a blend of folklore, Hindu mythology, Muslim orthodoxy and Arab pharmacopoeia. Later in colonial era, proper healthcare infrastructure was initiated during Portuguese colonization (1511-1641); two hospitals were built in Malacca known as Hospital Del Ray (specifically for expatriate) and Hospital De Porres. This was followed by the development of a hospital and a clinic known as M.Willen Cornelias Van Alsamer built during Dutch colonization (1641-1824) (Ling, 1991).

In 1880, a hospital was built in Taiping, Perak which was previously known as Yeng Wah Hospital. The main focus of this hospital is only to deal with health problems among tin
mining workers. Being one of the oldest in Malaysia, this hospital was also the first hospital to be equipped with X-ray facilities (MOH, 2014).

3.1.1 Pre Independence

Rural Health Service scheme in Malaysia was introduced in the 1950s, which provides primary health care to the communities in rural and remote areas. It mainly consists of health clinics and community clinics that is monitored by DHOs. DHO is the most peripheral health office in Malaysia. The services provided were primary care, secondary care, public health services (prevention, control and promotion), and also dental services. The first rural health centre was built in 1953 which focused mainly on maternal and child health. The number continued to grow to 8 main health centers, 8 health sub centers, 26 midwife clinics cum quarters and 18 maternal and child health clinics in the following years (Ariff & Lieng, 2002).

3.1.2 Post-Independence

A three-tier primary health care model was developed for the public health sectors in the late 1950s consisted of a health center, several sub-centers and midwife clinics in each sub-center. In the first two decades of independence, healthcare policy was a major priority and closely dictated by the national government. Soon after independence, the federal government had centralized control over health policy by using constitutional powers to take over health functions previously excised by states. Main health centers were run by medical officers, dentists, nurses, midwives, medical assistants and public health teams. Medical assistants, nurses and midwives run the sub-centers while midwife clinics were run by midwives.

In 1973, a two-tier system was introduced to enhance the quality and scope of health care in Malaysia. The health sub centers were upgraded to main health centers which currently is known as health clinics. Midwife clinics were gradually replaced by community clinics and managed by trained and qualified community nurses focusing on maternal and child health services. Each community clinic serves up to 4,000 residents, while a rural health unit, which consists of one main health clinic and several community clinics, caters for a population of 20,000 residents (Ariff & Lieng, 2002). Populations living in an immediate operational areas (within 4.8km radius) were expected to seek healthcare in those centers, while a village health team run by paramedics and nurses serves the extended operational areas (within 4.8km to 12km radius) using boats and other necessary transportation methods.

In Sabah and Sarawak, a network of health centers run by paramedics and midwives were set up to care for rural and remote communities with area not exceeding 12km in radius with population of 1,500 and 3,000 people. Communities residing outside of the extended operational areas were reached by the Flying Doctor Service (FDS) team. It consists of medical officers, medical assistants and community nurses who provide health care once a month to a village using helicopters. As FDS only visits the rural communities once a month, village health promoters were introduced among these communities in 1981 where two volunteers from each community were trained with basic healthcare. They were supplied with first aid kits and commonly used medications to provide basic healthcare to their communities (Ariff & Lieng, 2002).
Prior to 1980, the population of Malaysia predominantly lives in rural areas with proportion of rural population being 73% in 1970 and 66% in 1980. The limited number of rural clinics at the time of independence had rapidly expanded under the national economic and rural development plans, and further developed under the New Economic Policy in the 1970s. In 1960s there was one main health center for every 683,000 rural dwellers, one health sub center for every 319,000 and one midwife clinic for every 121,000. By 1986, the sub centers had been upgraded to main health centers and there was one for every 21,697 rural inhabitants while the ratio for midwifery clinics was 1:5147. Access was better in Peninsula Malaysia where in 1986, 74% of the population lived within 3 km of a health facility, and 89% within 5 km with corresponding figures of 86% and 93% in 1996 (Chee & Barraclough, 2007).

Presently in Malaysia, most of the health clinics are managed by Medical and Health Officers (MHO) who received referrals from medical assistants, nurses and midwives. Some of the larger health clinics are managed by Family Medicine Specialists (FMS). Many of these larger health clinics are equipped with laboratory services, diagnostic and imaging services and some even provides other additional services such as geriatric programs and delivery services (Ariff & Lieng, 2002).

3.2 General Overview Of District Health Services

In Malaysia, health sectors are centrally administered by the Ministry of Health (MOH) through its central, state and district offices. The district health office (DHO) come under the coordination and jurisdiction of the State Health Departments (MOH, 2015). Apart from DHOs, District Hospitals are also available to provide health services in certain districts; these hospitals are managed a Hospital Director. As of 2015, there are 167 District Health Offices in Malaysia (MOH, 2015).

Figure 3 shows an example of an organization chart for a DHO. The District Medical Officer of Health who is a Public Health Physician (PHP) is in charge of the overall management at district level pertaining to health services. In terms of flow of command, District Medical Officer of Health is directly under the responsibility of the State Health Director.

In general, a DHO is divided into several units which include Public Health Management, Support Services, Primary Care, Family Health, Disease Control, Occupational and Environmental Health, Food Quality and Health Education and Promotion Units. These units are responsible in overall planning, coordinating and implementing health programs and activities at district level as well as in monitoring and providing surveillance activities. Apart from managing and monitoring the unit, a District Medical Officer of Health is also responsible in quality management through regular internal and external audit. ISO 9001:2000 is used to maintain the quality management system in a district.

Health clinics at district levels are classified into 6 types according to the number of patient’s attendance in the specified area. Each Health Clinic is managed by a Medical Officer In-charge (MOIC) or a FMS who is responsible in the overall management and administration of the health clinic. The MOIC is assisted by senior nurses (also known as ‘Matron’) and paramedics in the Maternal and Child Health Unit and Outpatient and Emergency Unit respectively. Each Health Clinic is in-charge of several Community Health Clinics which are further clustered into several peripheral zones. Each zone is managed by a team consisting of
senior nurses, staff nurses and community nurses. Each of the Community Health Clinic is usually managed by two Community Health Nurses. Personalized care concept is practiced in Community Health Clinics whereby each client (mother or child) is assigned to a specific nurse. This is important to ensure the delivery of a continuous and high quality health care for each individual.

Figure 3: District Health Office Organization Chart (MOH, 2010b)

3.3 Roles and Functions of a District Health Office

A District Health Office (DHO) is entrusted with two major roles; to deliver public health services and to manage the resources within the district. This involves interactions with various stakeholders in terms of planning, implementing, monitoring and coordinating programs and services. The main stakeholders are from Ministry of Health, State Health Departments and District Health Offices, inter-governmental agencies as well as the private sectors.

From public health services aspect, a DHO acts as a body to oversee execution of national health policies and strategies at the ground level. The District Medical Officer of Health is responsible in setting health targets to achieve both short term and long term health goals which are in line with national priority. An operational plan, adapted to the local context, will be developed to improve health outcomes at district level. In doing so, District Health
Management Team will closely monitor the health situation and analyse the real time data routinely. Reports produced will be verified by the District Medical Officer of Health who will update the stakeholders to facilitate the decision making.

A DHO also serves to enforce existing health related legislation, for example, the Destruction of Disease Bearing Insect Act (DDBIA) and the Prevention & Control of Infectious Disease Act (P&CIDA). Health promotion activities are organised routinely to encourage social participation, and to empower the community. If any health performance gaps are identified, the District Health Management Team will intervene immediately to ensure equity, efficiency and quality of the delivery of health services. The District Health Management Team occasionally conducts operational research in order to develop and implement innovative solutions to address health issues. In addition, monitoring and evaluating process are carried out constantly on the performance of the DHO to ensure quality services.

Resource management refers to the optimal utilisation of resources available for financial planning, capacity building and technology development. The DHO ensures the availability of budget to conduct all essential health operations in the district. Manpower planning and development by DHO is also crucial in the provision of healthcare workers with suitable skills in the district health facilities. DHO also strengthens the information and communication technology to improve on the services such as through health data dissemination and efficient medical supply within the district.

3.4 Services provided by a District Health Office

There are six major services provided by a DHO, namely Family Health, Disease Control, Occupational Health, Food Quality Control, Health Education and Promotion, as well as Environmental Health and Water Supply Services.

3.4.1 Family Health

Family Health service comprises of six essential components: maternal and neonatal health, child health, school health, adolescent health, women’s health, elderly health and primary care. For maternal and neonatal health, antenatal clinics are set up to ensure safe pregnancy and delivery as well as to provide post-natal care for both mothers and neonates. Child health has various programs that address infant and child health including nutritional status and immunization. Care for the children with special needs is also a part of the Family Health Unit responsibilities. Other services include family planning and cancer screening for women such as Pap smear for cervical cancer screening and clinical breast examination (CBE) for breast cancer screening.

Primary care refers to the outpatient clinics that provide comprehensive coverage on the aspects of preventive, promotive, curative and rehabilitative care. The services include medical services, nutrition and dietetics, health education, domiciliary care or home nursing, elderly care and community mental services. Each clinic is supported by a pharmacy unit, radiological unit, laboratory unit and rehabilitation unit. Besides, the options of mobile clinics and flying doctor services are also available in certain remote areas to improve the accessibility to primary care.
3.4.2 Disease Control

Disease control service includes control of both communicable diseases (CD) and non-communicable diseases (NCD). Three main diseases that are being monitored under NCD are diabetes mellitus, cardiovascular disease and cancer; whereas CD covers measles, hand, food and mouth disease (HFMD), and food and water-borne diseases such as cholera, typhoid and dysentery. Due to the intensive case management of tuberculosis (TB), Human Immunodefiency Virus (HIV)/Acquired Immune Deficiency Syndrome (AIDS) and vector borne diseases, each are managed by their own respective teams.

3.4.3 Occupational Health

Occupational Health (OH) control caters for health promotional activities at worksites and health screening of workers including healthcare workers. Occasionally, the OH team collaborates with other agencies such as the department of environment (DOE) and department of safety & health (DOSH) to conduct worksite inspections.

3.4.4 Food Quality Control

Food Quality Control Service is a program based activity where the health team routinely visits food premises for hygiene inspection and food sampling. The monitoring of this surveillance program allows Health Inspectors to enforce and prosecute any food handlers whom are found not compliant with the existing regulations.

3.4.5 Health Education and Promotion

Health Education and Promotion Service is usually tailored to community needs. Activities like health education on disease prevention and healthy lifestyle promotion are organized routinely to increase public awareness. Besides, the DHO actively engage with local representatives to encourage community participation as well as community empowerment.

3.4.6 Environmental Health

Environmental Health Services and Water Supply is the sixth service provided by DHO. This team is tasked to monitor and improve the sanitary facilities in villages, ensure the safety of water supplies, as well as ensure a proper disposal of sewage and solid waste.

3.5 Monitoring, Surveillance Programs And Health Indicators

Surveillance is defined as an ongoing systematic collection, analysis, and interpretation of outcome specific data for use in planning, implementing and evaluating public health policies and practices (WHO, 2006). Surveillance system serves to monitor trends of endemic diseases in a progress towards disease control objectives, and to provide information that can be used to evaluate the impact of disease prevention and control programs. Thus, monitoring and surveillance of diseases is the essential key to ensure an early warning of potential threats to public health and this function at every level of the organization under Ministry of Health including the district level.
There are various surveillance programs at district level. Each program has their own specific indicators for monitoring purposes. The monitoring of these programs is through the National Indicator Approach (NIA), Quality Assurance Programme (QAP), the Key Performance Indicators (KPIs) and the Millennium Development Goals (MDG) 4, 5 and 6. At district level, each of these monitoring tool has specific target indicators based on different activities in each unit. The performance needs to be reported regularly at state and federal level. Any failures to achieve targeted indicators will need to be justified, along with a plan for remedial measures. Apart from that, each district is also encouraged to do a “District Specific Approach” for any specified activities that consistently fail to achieve given target.

The monitoring and surveillance programs and its specific health indicators at district level can be divided according to programs such as communicable disease, non-communicable disease, family health, and primary care surveillance programs.

3.5.1 Communicable disease surveillance program

The communicable disease (CD) surveillance program includes vector-borne disease control program such as for Dengue and Malaria. The QAP for vector-borne diseases has been introduced using NIA since 1995. For dengue, the DHO needs to come up with strategies to achieve specific quality assurance indicators such as Dengue Outbreak Control Index (DOCI) and Dengue Notification Time Index (DNTI). The DOCI indicates that 100% of outbreaks must be controlled within 14 days after reporting of the second case, whereas DNTI, specified that all cases need to be reported or notified within 24 hours of diagnosis.

Following dengue notification, a thorough case investigation is done followed by prompt control measures in the affected area, after which the health inspector will document all details in a comprehensive report. By identifying the shortfalls in dengue case managements during weekly meeting, the district health management team makes necessary adjustments and recommendations. This information is forwarded to the state health department and Ministry of Health. Due to limited manpower especially during dengue outbreaks, the team adopts public-private mix practice by hiring trained private vector control team to carry out fogging activities. The district health management team also coordinates with other stakeholders, which include private and government agencies to conduct activities that target the high risk group or outbreak locality. For example, the team collaborates with local authorities and residential committees in organizing health talk to increase public awareness, and spring cleaning activities to destroy mosquito breeding places. In addition, legal action using existing act may be able to be used against irresponsible parties such as factories or construction sites who harbor dengue breeding sites resulting in a compound and closure of premises. Other specific measures include communication for behavioral impact (COMBI) program in the housing areas and ‘young doctor’ concept that is integrated into school health programs which aim to empower and mobilize the community, and subsequently, enable the sustainability of dengue control programs in Malaysia (MOH, 2010a).

For malaria surveillance program, the target set for the district is to have no malarial death in a year. In order to achieve this, the doctors at health clinics need to be given adequate training in diagnosing and managing malaria. For TB surveillance, each district needs to ensure that their Sputum Conversion Rate (SCR) achieves 90%. Different DHO has different approaches to achieve the target. Examples of the strategy are by conducting health education talks and
programs among TB patients to increase awareness and conducting courses among health care workers to increase their knowledge in managing TB.

For HIV/AIDS, those who have been diagnosed as a Sexually Transmitted Infection (STI) will be screened for HIV. All activities related with HIV/AIDS are aimed towards achieving the MDG 6 target. Other indicators include the incidence of HIV infection through vertical transmission, captured under the Prevention of Mother-to-Child-Transmission (PMTCT) Program, retention rates for Methadone Maintenance Therapy which need to be at 70% and above, rates of HIV cases getting antiretroviral drugs (ARV) and the percentage of pregnant women infected with HIV and receiving antiretroviral treatment (ARV). Other indicators under MDG 6 that are to be monitored at district level are HIV prevalence among population aged 15-24 years, condom use by high-risk individuals such as sex-workers, and the proportion of population aged 15-24 years with correct knowledge on HIV/AIDS.

Another communicable disease with surveillance programs is measles, where its activities, strategies and surveillance programs are focused towards measles elimination. The programs differ between DHOs depending on their community perspectives. However, the target set for all districts by the Ministry of Health is according to MDG 4 where the proportion of 1 year-old children immunised against measles are used as the monitoring tool. Specific health indicator to be achieved by a district health office is the percentage of suspected measles cases investigated within 48 hours from the date of notification.

As for leptospirosis, the percentage of leptospirosis cases registered in the e-notification system within one week after receiving laboratory results and reports of the death of leptospirosis cases are the indicators that is being monitored. Other surveillance programs under communicable disease are Acute Flaccid Paralysis (AFP) surveillance program for Polio eradication and influenza-like-illness (ILI) surveillance for Influenza infection. On the other hand there are also clinical based surveillances and this includes the surveillance of conjunctivitis and Acute Gastroenteritis (AGE) conducted in several pre-determined health clinics.

3.5.2 Non-communicable disease surveillance program

At district level, the non-communicable disease (NCD) surveillance programs include diabetes mellitus, cardiovascular diseases, mental diseases and occupational diseases. Under the Diabetes and Cardiovascular Diseases Control Program, the quality of diabetes care at clinic level is monitored by the Diabetes Clinical Audit. In addition, the implementation of this program has to comply with the “Quality of Diabetes Care at MOH Health Care Facilities: Glycaemic Control” guideline published in 2009. The main objective is to assess the quality of care of patients with diabetes in MOH health facilities, using HbA1c level as the proxy (NSPNCD, 2010). Level of glycaemic control is an important factor in determining the outcome of diabetes patients.

Operationalizing strategy for combating NCDs at district level includes tackling the risk factors such as physical inactivity, unhealthy diet and smoking. This includes strengthening of the School Health programs in terms of health education and health-promoting activities. Health education talks and specific programs on benefits of physical activity, eating healthy food and embracing healthy lifestyles are being conducted in schools. Under similar program,
the school health team runs the school-based NCD risk factor screening and intervention particularly on obesity.

Mental health surveillance program is also carried out at district level. The indicators are the percentage of deliberate self-harm, percentage of adolescents having high risk behaviour, percentage of mental health problems among children and adolescents and percentage of re-admissions of patients under community mental health services (MOH, 2010a).

Surveillance programs for occupational health include Needle Stick Injury Surveillance Program and Surveillance of Occupational Diseases, Poisoning and Injuries (MOH, 2010a). Following the occurrence of sharps injuries among health personnel in the district, data on the incidence is sent to the officer in-charge of occupational health at district (MOH, 2007). The monitoring under the NIA and QAP for needle-stick injury is zero incidence rates of needle stick injuries per 1000 health care worker. Under the Occupational Safety and Health program, there are medical surveillance programs for laboratory, vector and radiology units’ personnel. The surveillance programs were first established for pesticide and chemical poisonings, followed by surveillance for occupational lung diseases, skin diseases, injuries and occupational noise-induced hearing losses (MOH, 2010a). These medical surveillances use standard questionnaires, medical examinations, blood investigations to monitor haemoglobin levels, renal profiles, liver enzymes and serum cholinesterase levels, chest x-rays, and hearing tests using audiometry. The program also includes giving health promotion and education on occupational safety and health to health care workers in the district.

Other than that, NCD surveillance also includes surveillance on drug and alcohol abuse, and disease monitoring program in National Service Training Centres (PLKN) under the environmental health program. In PLKN, the programs comprised of health risk assessments of the camps, medical services and health education on HIV/AIDS done by representatives from the District Health Office (MOH, 2010a).

3.5.3 Family Health

Monitoring of activities under the Family Health Services mainly follows specific health indicators in the MDG as well as the NIA. The goals that are related to family health programs at district level are the MDG 4 and 5, which aims to reduce child mortality and to improve maternal health. There are also indicators known as key performance indicators (KPI) which is used to ensure the quality of health services provided. These indicators are used to monitor program performance for Maternal and Neonatal Health, Child Health, School health, Adolescent health, Women health and Elderly health which is under the family health unit responsibilities.

Indicators for MDG 4 are under five mortality rate, infant mortality rate and the proportion of children under one year of age who had been immunized against measles (MDG, 2010). Indicators for MDG 5 include maternal mortality rate, proportion of births attended by skilled health personnel, contraceptive prevalence rate, adolescent birth rate, antenatal care coverage and unmet needs for family planning (Malaysia : The Millennium Development Goals, 2010). Apart from that, there are multiple NIA indicators under the Family Health program that are measured at district level such as severe neonatal jaundice, visual acuity detection rate among standard 1 students and timeliness of reporting for the Confidential Enquiry of Maternal
Death (CEMD). The KPI for Maternal and Child Health programs at district level are the percentage of safe deliveries for mothers, percentage of new antenatal mothers attending antenatal care, percentage of post-natal mothers receiving post-natal care, percentage of high risk mothers practicing effective family planning and percentage of early detection of children aged less than a year with special needs (MOH, 2012).

3.5.4 Primary Care

Surveillance programs in the Primary Care Services include monitoring of NIA in asthma management, the percentage of wrong prescriptions detected before dispensing the medication, the percentage of high risk mothers practising effective family planning, the percentage of diabetes patients achieving HbA1c < 6.5%, the percentage of customers who received customer friendly services in health clinics under “Klinik Kawanku”, the percentage of film rejection rate for radiology and the percentage of health clinics who reached the standard indicator for total turnaround time run by automated Full Blood Count (MOH, 2012).

3.5.5 Other programs

In addition to the surveillance programs explained previously, there are other agencies such as the Department of Veterinary Services and FOMEMA Sdn. Bhd. who contribute to the monitoring and surveillance of certain infectious diseases. The Department of Veterinary Services is responsible for zoonotic disease surveillance. Any unusual occurrence of zoonotic diseases in animals should be reported to the DHO and to the Surveillance Section, Ministry of Health. List of zoonotic diseases of public health importance includes Rabies, Nipah virus infection, Avian influenza, Japanese encephalitis, Vancomycin Resistant Enterococcus, Bovine Tuberculosis, Bovine Spongiform Encephalopathy, Brucellosis, Anthrax infection, Toxoplasmosis, Leptospirosis, Salmonella enteritidis/typhimurium, Rift Valley Fever, Q fever, Hanta Virus, Filariasis and Yellow Fever. On the other hand, surveillance for infectious diseases among foreign workers is conducted and monitored by FOMEMA. Besides that, the DHO also plays important roles in monitoring reports on infectious diseases from the community and media, both in print and electronic, and this falls under the community based surveillance (MOH, 2004).

3.6 Health Information System

Health information system acts as building blocks in health management. A proper and systematic structure of data management should be reliable, usable, understandable and comparable. It is essential for health system policy development and implementation, governance and regulation, health research, human resources development, health education and training, service delivery and financing (WHO, 2008). Key components for health information system include data generation, compilation, analysis and synthesis, and communication. Most of health information systems at district level are still using manual documentation limiting the exchange of information between facilities. In primary health clinics, individual data from one clinic has no link with another clinic or hospitals. As a result, one has to register a new record if a patient visits another clinic.
The DHO plays an important role as the main data collector in the National Health Information System. Its function has expanded from monitoring and surveillance system, parallel with the advancement of information and communication technologies (ICT). Data collection at district level can be divided into four types; individual, health facility, population and public health surveillance data. Individual data consists of complete patient’s profile and illness records, whereas health facility data includes facility level record and administrative sources such as manpower, financing and assets. Population level data or also known as household data collects information on the population which includes people who use and those not using the facilities provided. This data is essential for public health decision making. As for public health surveillance data, it is a continuous data collection focusing on problem solving. It is important in the occurrence of outbreak or in urgent cases where there is a need for rapid response to control diseases.

Prior to year 2000, data collected at the district level were analysed and segregated at state level prior to the final reporting at national level. Following the introduction of various tele-health initiatives by the MOH in the past decade, the quality and timeliness of the reporting mechanism for district health related information system has improved significantly. In year 2000, Ministry of Health introduced tele-primary care (TPC) in Malaysia with the aim of bridging rural communities towards the betterment of health care. Tèle-primary care is a means to channel the existing health services to patients and the public using ICT facilities (Yadav H & Lin WY, 2001). It also covers disease surveillance, epidemic management and technical support services such as laboratories, radiology and pharmacy. The main components of TPC are the Patient Management System, Clinical Management System, Clinical Support System and Epidemiology and Population Health. It provides a system for storing, archiving and retrieving medical records electronically and facilitates collection and analysis of data on population health. Aiming at reducing the gap in referral system, TPC provides real-time consultation on patient management between the peripheral clinic and the specialist hospital which will eventually reduce traveling costs to patients allowing more opportunities for specialist care among patients from rural areas (BRINFO, 2013). Furthermore, it also improves disease surveillance system by providing the alert and auto-notification features within the system.

Moving towards vision 2020, utilising the benefits of ICT and multimedia is important to relay health information to patients by encouraging active participation of patients in healthcare processes (MOH, 2010). Nowadays, health information can be easily accessed through emails, websites, social media and phone applications. This has become an important tool for health promotion and education to the public as it provides better communication between public and healthcare providers.

4.0 DISCUSSION

Health services provided at district level caters for the whole population of all ages from new born to the elderly. Health programs implemented at district level are evidence-based focusing on general health problems in Malaysia and they are carried out by trained health personnel. Apart from providing treatment, other health programs provided at district level include public health education and promotions on healthy lifestyle campaigns, programs on
immunization, school health services, food and nutrition, safe water, and occupational health and safety programs to enable the community to increase control and improve their own health. The KOSPEN (Healthy Community, Empowers Nation) programs for the non-communicable diseases and COMBI (Community for Behavioural Impact) for dengue control program are the examples of programs introduced focusing on community participations. Apart from that, collaborations with other parties such as other governmental agencies, non-governmental organization, public-private partnership, international health bodies and politicians is an important tool to strengthen health campaign strategies.

Being the front liner in healthcare system, primary health care services provided at district level should be acceptable to the community. Factors contributing to the acceptability of health care include satisfactory communication between health care providers and patients, trust towards health care providers and patient’s belief in the confidentiality and privacy of information. This is achieved through good communication skills while conforming to ethical conducts in order to build patient’s trust towards the health care services. However, problems such as increased number of patients using government health facilities and long waiting hours have indirectly limited the consultation time between healthcare providers and patients. In addition, some health care staff was required to share consultation rooms limiting the privacy of patients in order to cater for the increasing number of patients. This remains a challenge in primary health care affecting the acceptability of care.

Malaysia can be proud to acknowledge that the country’s district health services offer a holistic coverage for patients. The completeness of care is evident in all health clinics throughout the country where every facets of a disease from prevention to rehabilitation is given attention to. An example is the various health promotion and health education programs conducted for primary prevention against diabetes mellitus. Next, a secondary prevention step is by promoting early detection of diabetes. This includes awareness programs, active and passive case detections, screening booths opened at health camps, shopping malls and work place, and community empowerment programs. Various guidelines had been distributed to ensure patients with the disease are given proper follow up and achieve proper diabetic control as well as avoiding complications as the tertiary prevention effort. Among the procedures and services offered by the health clinics are regular blood investigations, dietitian services, foot care and wound care services, retinopathy screening using fundus camera, and physiotherapy or occupational therapy. While the availability of the services may vary from one clinic to another, those without specific services are given a clear guideline to refer their patients for appropriate services. Another type of clinic that is rapidly gaining popularity is the 1 Malaysia Clinics. While the services are limited, its strategic locations made up for the small range of services. Here, any patients in need of additional services will be referred immediately to the nearest health clinic.

Primary health care services aims towards a safe, effective and affordable healthcare of appropriate quality to meet the objective of rights to health. The services provided at health clinics are charged according to Fees (Medical) Order 1982 whereby each outpatient visit by a Malaysian citizen is charged RM1 (approximately 0.23USD) that covers for consultations, investigations and treatments. Foreigners are charged according to the Fees Act (Medical) for Foreigners 1951 (2014 amendment). The clinics practice “no wrong door policy” where no patients will be denied access at the health clinics even during emergencies, where they will
be stabilized medically before transferring them to the nearest hospital that is more equipped to handle such cases.

Another redeeming quality of the Malaysian district health services is a good referral system whereby available guidelines are provided to be used by the healthcare providers to ensure continuity of care (Hanafi, Teng & Yasin, 2003). However, there are cases where patients defaulted their care and referral which could be due to lack of understanding regarding the importance of continuing their follow up.

Globalization is a threat to the Malaysian health care system and this affects the health care at district level as well. The ease of cross border movement, travelling and migration of illegal immigrants and refugees exposes the local community to emerging and re-emerging diseases. Natural disasters could also interrupt the health services, such as the recent flood in Kelantang and earthquake in Sabah causing damage to local health facilities. Other threat that may have long term implications on the district health system is political interference that prioritizes economic growth compared to public health in Malaysia. This issue is evidenced by the recent industrial growth of e-cigarette and “vape”. Besides that, local pressure groups such as anti-vaccine movements can hamper current health initiative programs. Last but not least, Malaysia is moving towards an aging population and this will place an extra burden on the country’s resources in order to cater for the changing demography.

5.0 CONCLUSION AND RECOMMENDATIONS

District health office, being the basic unit of the centralised health system in Malaysia, plays an integral role in public health services delivery. The article has described the evolution of district health system over the years and the continuous exploration of various health services to cater to the needs of the local community. The concept of district health system in general is also critically analysed from both internal (strength, weakness) and external (opportunity, threat) environment. However, this article is limited to government initiatives in establishing a district health system, thus a better understanding of the concept of private health system, especially on its complimentary role is necessary. Thus, it is recommended that a study on public private partnership at district health service delivery to be done in the future.

Authors’ contribution

Author 1 : information gathering, preparation and editing of manuscript
Author 2 : information gathering, preparation and editing of manuscript
Author 3 : information gathering, preparation and editing of manuscript
Author 4 : information gathering, preparation and editing of manuscript
Author 5 : information gathering, preparation and editing of manuscript
Author 6 : information gathering and preparation of manuscript
Author 7 : information gathering and preparation of manuscript
Author 8 : information gathering and preparation of manuscript
Author 9 : review of manuscript
Author 10 : final review of manuscript and final editing

REFERENCES


