NTWC

CLINICAL SERVICES PLAN for the New Territories West Cluster 2017

醫院管理局
HOSPITAL AUTHORITY

About this design…

This design is inspired by the natural scenery and environment of Tuen Mun and Yuen Long. Our healthcare services aim to serve the people in the community.

Gratitude to NTWC colleagues for the photographs on the inside pages. Special thanks to Mr Brian MA, Ms Winnie WONG and Ms Joan CHAN.

CONTENT

Foreword by Chairman

The Hospital Authority (HA) is delighted to have worked with the Government to devise a ten-year hospital development plan to meet the growing service demand and improve existing services. In particular for the New Territories West Cluster (NTWC), a new block adjacent to the existing Operating Theatre (OT) block of Tuen Mun Hospital (TMH) will be constructed. Together with the recent service commencement of the Tin Shui Wai Hospital (TSWH), we are delighted to see the continuous augmentations in the Cluster's service capacity and facilities.

With new development areas around Tuen Mun and Yuen Long, NTWC is facing the challenge of escalating service demand arising from population growth and ageing. The Cluster has been striving to increase the service capacity in the past years by addition of hospital beds. At the same time, NTWC will also mobilise the additional time-limited funding for catch-up plans to address known deficiencies in service capacity. We believe that the Cluster can build up the capacity progressively to serve the growing population demand in their catchment districts.

Meanwhile, the above mentioned developments in NTWC have presented the Cluster with an opportunity to rethink about the service delivery model from a system perspective. Through the development of this Clinical Services Plan (CSP), clinical strategies, intended service development and future service models of NTWC are distilled from a series of consultation process. Our Cluster colleagues will strive to further strengthen the service model to improve quality and efficiency, as well as to address the changing needs and expectations of the general public on healthcare services provision.

With the ten-year overall hospital development laid out, staff and local communities in NTWC are able to envision how the facilities and services will be transformed in the coming years. I am gratified that the Government has earmarked HK$200 billion to implement the hospital development plan, which will improve the health services capacity and facility for the local population. It is through the collective commitment and immense support from the HA Board, Hospital Governing Committees and our staff that the development of this CSP can be accomplished. We look forward to the realisation of this CSP in bringing about higher attainable standards of healthcare services in NTWC.

Prof John LEONG Chi-yan

Chairman
Hospital Authority

Foreword by Chief Executive

Given the rapid ageing of our population and the community's increased aspiration for healthcare services, the demand for quality healthcare services in Hong Kong is expected to rise in coming years. In planning to cope with that, TSWH has commenced operation since the first quarter of 2017, with a view to increasing service capacity in NTWC. This hospital at full operation would have the capacity of 300 in-patient and day beds, providing a wide range of healthcare services covering Accident and Emergency services, in-patient services, and ambulatory and community care services. It is envisioned that this can enhance the accessibility to healthcare services for residents in Tin Shui Wai.

Taking into account that TSWH will be the fifth member of the Cluster, HA has initiated the planning of Cluster's future service development through the formulation of a CSP. After thorough consultation, this Plan illustrates the overarching strategy to inform the future service development and role of hospitals in the Cluster. New service models that are conducive to the delivery of patient-centred care are demonstrated in the Plan aspired from our colleagues. Hospitals in NTWC will adopt a collaborative and coordinated approach to align the services and implement the strategies and service models proposed in this CSP.

Looking ahead, HA may look for further opportunities to expand the capacity of TSWH in the long run by developing its adjoining or adjacent sites. The strategies and service models of this Plan will guide the capital projects within the Cluster for many years to come, including future re-development and expansion projects for TMH and Pok Oi Hospital. Master Development Plans will also be developed based on this CSP.

My deepest gratitude goes to all fellow colleagues, Cluster management and patrons for their invaluable contributions to the development of this Plan. We would count on your unwavering commitment to enable the change in service development in translating the strategies into high quality and efficient healthcare services for meeting the needs of local communities.

Dr P Y LEUNG

Chief Executive
Hospital Authority

Preface

The CSP for the NTWC is the culmination of thoughts and aspirations of frontline professionals, executives from Clusters and Strategy and Planning Division of the HA Head Office, as well as a wide range of stakeholders who are committed to transform and re-organise the services provided by the Cluster. It portrays the future service directions and roles of the hospitals in NTWC, bringing about more patient-centred care for the local communities.

In the development of this CSP, strategies to augment the clinical services development for the Cluster have been set out for residents in Tuen Mun and Yuen Long. A number of outstanding flagship services in NTWC were identified, and by building on that, this CSP emphasises on the importance of fostering a culture of multi-disciplinary collaboration and integration of services across the continuum of care. Through enhanced teamwork and clear role delineation among Cluster hospitals, services can be better aligned and provided across hospitals under the principle of patient centred-care.

We would like to express our heartfelt appreciation to the large number of frontline healthcare professionals from both within and outside the cluster, who have dedicated their time and efforts to the development of this Plan. In particular, we would like to thank the Clinical Work Groups for their immense contributions in formulating the service directions of the clinical programmes. Our appreciation also goes to members of the Advisory Panel for their staunch support and invaluable guidance for this Plan.

Dr Tony KO

Cluster Chief Executive, New Territories West Cluster /
Hospital Chief Executive, Tuen Mun Hospital

Dr Libby LEE

Director, Strategy & Planning Division,
Hospital Authority Head Office

Executive Summary

OVERVIEW

The Clinical Services Plan (CSP) for the New Territories West Cluster (NTWC) maps out the clinical strategies, intended service development and future service models, as well as role delineation of hospitals across NTWC for meeting the long-term healthcare needs of the community. It also facilitates and guides the planning and design of future major hospital development and expansion projects within NTWC.

Strategies to augment the clinical services development for the Cluster have been set out for residents in Tuen Mun and Yuen Long. It is envisioned that hospitals and other healthcare facilities in NTWC will form an integrated health service network to provide quality medical care. With the immense input from staff and stakeholders, the future models of care will focus on improving accessibility, quality and safety, and patient outcomes by adhering to the following strategies:

1. Foster a culture of multi-disciplinary collaboration
2. Adhere to the principle "localise where possible, centralise only when necessary"
3. Integrate services across the continuum of care
4. Acknowledge and strengthen the flagship services in NTWC

The strategies were developed from the aspirations of staff to improve the healthcare services in NTWC. Collectively, these form the cornerstones of service development recommendations outlined in the subsequent chapters.

BACKGROUND

In the planning of public healthcare service, the Hospital Authority (HA) takes into account a number of factors including population growth, demographic changes, service demand of local communities, advancement in medical technology, as well as organisation of services of its clusters and hospitals. As part of the planning process for capacity enhancement and service improvement, CSPs for individual clusters are formulated to map out the development strategies and service models of different services according to the healthcare needs in different clusters.

NTWC is providing public healthcare services for Tuen Mun and Yuen Long. With the projected population growth in these catchment districts of NTWC, it is anticipated that the service demand will rise as a result. In the Policy Address 2016-17, the Chief Executive of Hong Kong Special Administrative Region announced that the Government would set aside a dedicated provision of $200 billion for a ten-year

hospital development plan, enabling HA to expand and upgrade its healthcare facilities to meet service needs. Included in the ten-year plan is the construction of a new extension to the Operation Theatre (OT) Block of Tuen Mun Hospital (TMH), which is the major acute hospital of NTWC.

HA began to formulate the CSP for NTWC in March 2016. The CSP maps out the Cluster's clinical strategies, intended service development, and future service models for meeting the long-term healthcare needs of the community. At the same time, it also delineates the roles of the individual hospitals in NTWC, and aligns their service profiles to optimise the utilisation of facilities and resources for providing better and more efficient healthcare services. The service models proposed in the CSP will inform physical designs, and thus guide the planning of future hospital facilities in NTWC.

PROJECT GOVERNANCE AND METHODOLOGY

The project was overseen by a Project Committee jointly chaired by the Cluster Chief Executive of NTWC and the Director of Strategy and Planning from the Head Office (HAHO), with members including NTWC clinicians, senior management and the chairpersons of the Hospital Governing Committees (HGCs) of TMH, Pok Oi Hospital (POH), Castle Peak Hospital (CPH) / Siu Lam Hospital (SLH) and Tin Shui Wai Hospital (TSWH). The Project Committee regularly reported to the Directors' Meeting (DM) which provided an overall steer to the project.

To carry out and coordinate the project, a Planning Team was formed with members from both the NTWC and HAHO. The Planning Team was supported by an experienced overseas healthcare service planner who was engaged as an external consultant to carry out the consultation process and provide input to the project. The project progress was also reported to the Cluster Medical Services Committee where the Chiefs of Service (COS) in NTWC deliberated and aligned service proposals in developing the CSP. In addition, an Advisory Panel was formed to review and comment on the observations and recommendations made by the external consultant, and provide advice to the Project Committee.

The CSP was developed through a structured process involving a wide range of stakeholders and clinical staff from NTWC. The process included "vertical specialty-based consultation" via questionnaire survey and face-to-face interviews with frontline healthcare professionals, followed by "horizontal programme-based consultation" via 14 multi-disciplinary, cross-hospital and cross-specialty Clinical Work Groups (CWGs) which developed proposals on the future development of clinical programmes. Proposals of the CWGs were presented and deliberated at a one-day seminar which concluded this phase of consultation.

This draft NTWC CSP was made available to around 430 key stakeholders between 30 December 2016 and 1 February 2017 to solicit feedback and suggestions. They included clinical and management staff from the Cluster, the HGCs of the NTWC hospitals, as well as senior executives from HAHO. Responses received were carefully reviewed and deliberated by the Project Committee, and used as a basis to refine the CSP.

Following the formulation, the NTWC CSP was submitted to the DM for endorsement, followed by the Medical Services Development Committee (MSDC) for approval.

KEY CHALLENGES

Several key challenges faced by NTWC were identified and they were taken into consideration during the process of mapping out the future service delivery models and delineation of each hospital within the Cluster. The challenges can also be viewed as an opportunity for the NTWC to refine and improve its services.

Firstly, the **escalating service demand arising from population growth and ageing** will pose significant impact on the healthcare services for NTWC. With new development areas around Tuen Mun and Yuen Long, it is anticipated that the total population will rise by 13% from mid-2014 to mid-2024. In particular, a more rapid growth in both younger and older age groups, as compared to the average figure for the whole Hong Kong. According to HA's service utilisation data, the relative risk of an elderly person being hospitalised is about four times that of a non-elderly person. It is observed that around 50% of all hospital bed days were occupied by patients older than 65 of age, and over 75% of the elders were suffering from one or more chronic conditions.[1] The rapidly ageing population is going to pose significant pressure on the healthcare system in NTWC. In addition, new town development projects such as the Hung Shui Kiu New Development Areas and Yuen Long South development proposed by the Government will further bring in additional population to Yuen Long.

Secondly, there are **service gaps to be filled in meeting the healthcare needs of local population.** For example, emergency paediatric and gynaecology services, clinical oncology and 24-hour emergency surgical operation services were only available at TMH. In 2014-15, there were around 11,000 patient transfers from the A&E department of POH to TMH as the above-mentioned services were not available round-the-clock at POH. At the same time, there is no private hospital in Tuen Mun and Yuen Long, and local residents of NTWC rely heavily on public healthcare services. It is observed that among the different Clusters in HA, NTWC has the highest proportion of in-patient discharge episodes utilised by patients living inside its catchment districts.

Thirdly, there is a need for the Cluster to review its **service organisation and models of care.** For the past few years, TMH has been an outlier in the Surgical Outcomes Monitoring and Improvement Programme (SOMIP). The Cluster needs to examine the models of care and service organisation so that improvement strategies can be formulated to ensure the quality of the surgical services provided to the local community.

Meanwhile, with the increasing prevalence of chronic diseases and longevity, patients in local community are expecting high level of integration and coordination between hospital services and community services. For better chronic disease management, the Cluster needs to improve on the integration between in-patient services, community services and primary care services, so that an integrated approach can be adopted to support patients, especially the elderly, in the community. It is anticipated that a large residential care home for the elderly will be established at Lam Tei region of Tuen Mun. It is an opportunity for the Cluster to develop a medical-social collaboration service model to address the needs of elderly patients in the community.

1. *"Social Data Collected via the General Household Survey : Special Topics Report - Report No.27" (2001) published by C&SD*

Furthermore, **major infrastructure developments near NTWC,** such as the Tuen Mun – Chek Lap Kok Link, may impact on the health service utilisation pattern and contribute to the growth of service demand. NTWC is anticipating the implication of this new development as an opportunity to review its healthcare services.

STRATEGIC FRAMEWORK

Taking into account the challenges faced by the Cluster and building on its strengths and potentials, an overall framework was formulated to guide the development of clinical service directions. Its underlying strategies that resulted are complementary to each other in addressing the key challenges. The strategic framework and some of the key recommendations are as follows:

1. **Foster a culture of multi-disciplinary collaboration** to deliver healthcare services that can better serve the escalating and complex healthcare needs of the local community. Multi-disciplinary care recognises the values of expertise and perspectives of different healthcare professionals in the provision of patient-centred care.

2. **Adhere to the principle "Localise where possible, centralise only when necessary"** and ensure appropriate clinical services are available in all the districts covered by NTWC. In view of the large geographical area covered by NTWC, most secondary care services for common conditions will be provided locally such as chronic disease management for the elderly population, post-acute illness rehabilitation and emergency surgical services. Services requiring advanced technology and specialised clinical expertise will be concentrated to ensure the quality of service for a critical mass of cases.

3. **Integrate services across the continuum of care** in order to provide seamless services with aligned standards to the growing number of patients, especially the elderly, in the Cluster. Integrated and comprehensive healthcare services would facilitate a smooth transition among different levels of care, thus reducing avoidable hospitalisation and over-reliance on in-patient services, and allowing patients to receive care at the most appropriate setting.

4. **Acknowledge and strengthen the flagship services in NTWC** by enhancing the service profiles of its healthcare facilities, riding on their existing strengths, for better serving its population. In the consultation process, a number of outstanding services were identified in NTWC, in terms of service organisation and the provision of patient-centred care. Community mental health and forensic psychiatric services are examples of these services.

CLINICAL SERVICE PROGRAMMES

Based on the strategic framework of this CSP, clinical service programmes were formulated to address the challenges faced by NTWC, with particular attention on the roles and functions of the NTWC hospitals. Besides the reports of the 14 multi-disciplinary and multi-specialty CWGs, the future clinical service programme for **obstetrics and gynaecology** is also included.

CHRONIC DISEASE MANAGEMENT

To improve the management of patients with chronic diseases in NTWC, the CWG proposes improvement actions according to the different components in the chronic care model that are considered to be important determinants for outcomes associated with chronic disease management. It is proposed that service organisation between acute, primary and community care should be improved to facilitate patient flow between the different care settings. A shared care model is proposed to allow patients to be taken care of in the most appropriate setting. On the other hand, extension of Risk Assessment and Management Programme and patient empowerment programmes will be developed to engage patients in the management of their own chronic illnesses. The multi-disciplinary involvement in patient care will demand an efficient clinical information system which allows easy access of patient information in all care delivery settings.

CARE FOR THE ELDERLY

Ageing population is one of the most important challenges faced by NTWC. Regarding the in-patient services, the CWG proposes to enhance the geriatric support for various departments in the hospitals including the A&E department, orthopaedic and surgical peri-operative care, as well as for patients under psychiatric or oncology service. The community-based geriatric programmes will be enhanced, both for elderly living in residential care homes and in the community. This will be achieved by medico-social collaborative initiatives to strengthen the medical support for Residential Care Homes for Elderly (RCHEs) and integrated discharge support. Regular information exchange and sharing between hospitals, RCHEs and non-governmental organisations (NGOs) are also recommended.

MENTAL HEALTH SERVICES

NTWC will adopt a holistic and patient-centred approach in mental health services that cut across different levels of care. The model consists of three key components that aim to: i) develop a sustainable model to serve patients with common mental disorders; ii) build a cluster-based comprehensive consultation-liaison service that addresses the mental and physical health needs of patients attending hospitals in NTWC; and iii) enhance the community mental health services to support patients with severe mental illness across all levels of care.

CANCER SERVICES

NTWC will provide a comprehensive cancer programme that provides timely, integrated, personalised and patient-centred service. Different levels of clinical services will be needed along the patient journey from primary care, to specialist care and long-term care. NTWC will adopt a multi-disciplinary approach in

caring for patients suffering from different types of cancers. The CWG recommends that case management approach should be adopted to cover major cancers. A shared care model is also proposed for the long-term follow-up of patients who have recovered from cancer. Based on a risk-stratification approach, primary care providers will be invited for continuing the care for patients with low-risk of recurrence or complication after cancer treatment. TMH will remain as the main platform for most multi-disciplinary teams. Additional consultation services of general oncology and palliative care services are recommended at POH, while satellite centre for chemotherapy and palliative care services can be considered at TSWH.

PERI-OPERATIVE SERVICES

The peri-operative service model is designed to optimise patient care before, during and after surgery. The patient journey begins with pre-operative risks assessment, optimisation of patients' condition before surgery through to post-operative care. The CWG proposes to set up a peri-operative team comprising anaesthetists, surgeons, intensivists, physicians, allied health and nursing professionals to support patient care before and after surgery where appropriate. The care model aims to provide efficient clinical pathway that can enhance the recovery for low risk patients. Those patients undergoing high risk surgeries will be offered timely monitoring and management by the multi-disciplinary team under a suitable care setting.

EMERGENCY SURGICAL SERVICES

The CWG makes recommendations on the development of cluster-based surgical services which aim to provide equal access for emergency surgical services in the districts covered by NTWC. Under single governance structure, the three acute hospitals in NTWC will form an integrated service network to support the emergency surgical services. 24-hour emergency surgical services will be developed at POH. Together with the opening of A&E department at TSWH, it will be able to support the majority of the emergency surgical conditions within Yuen Long district. TMH will serve as the tertiary referral centre for comprehensive emergency surgical services including trauma care and other sub-specialty services. Cluster-based protocol will be used to guide the patient journey, and well-defined admission criteria will be applied to divert patients to the most suitable site for managing their conditions. In the process, the emergency medicine ward in each hospital's A&E department in NTWC will support the network by initiating early assessment and investigations according to clinical protocols.

MUSCULOSKELETAL SERVICES

The CWG proposes a geriatric-orthopaedic care model for geriatric hip fractures and a comprehensive multi-disciplinary "bone and joint" ambulatory care model to meet the growing demand in treating musculo-skeletal (MSK) disorders. In the proposed geriatric-orthopaedic service model, a clinical pathway will be set up for the management of elderly patients admitted for bony fractures. The management pathway will cover acute management, rehabilitation through to community re-integration. The CWG recommends setting up an Ambulatory Day Care Centre (ADCC) in NTWC to provide a one-stop service for patients with MSK diseases. The proposed centre will be an ideal place to manage patients in the day care setting. A multi-disciplinary approach will be adopted. Protocol driven triage and assessment will be initiated by trained healthcare personnel, such as nurse specialists.

AMBULATORY CARE SERVICES

NTWC aims to provide accessible, patient-centred, comprehensive and coordinated care for patients in the Cluster. The CWG recommends establishing the ambulatory care services for emergency medical conditions so as to reduce unnecessary emergency admissions. Besides, the ambulatory services can also support elective medical procedures and enhance early hospital discharge. Clinical protocols will be used for patient preparation, and well-designed workflow can facilitate same day admission and discharge for elective surgeries. The success of ambulatory care model needs to be supported by fast track diagnostic investigations, such as radiological investigations and electro-diagnostic tests.

CARDIAC SERVICES

A multi-disciplinary and integrated cardiac care model will be adopted in the Cluster to meet the challenge of an increasing resident population. An integrated and cluster-based service delivery model will be implemented in cardiac services, including treatment of ischemic heart disease, congestive heart failure and provision of cardiac rehabilitation.

NEUROSCIENCE SERVICES

The CWG sets out a cluster-based, multi-disciplinary and holistic service model for integrated management of patients with neurological diseases. TMH, POH and TSWH shall work together to provide a full range of basic to advanced neuroscience services for the Cluster. Clinical neuroscience services will be concentrated at TMH for integrated management of neurological diseases. Members of the multi-disciplinary team will include neurologists, neurosurgeons, radiologists, oncologists, psychiatrists, endovascular interventionists, nursing and AH professionals. TMH will continue to serve as the tertiary referral centre for major stroke and neurosurgical conditions for NTWC.

GASTROINTESTINAL SERVICES

The CWG recommends setting up an integrated gastrointestinal(GI) ward to manage patients suffering from high-risk GI conditions. Patients in the integrated ward will be jointly managed by the surgical team and GI physicians, with input from multi-disciplinary team of AH professionals. On the other hand, protocol driven approach will be adopted for GI cancer management. Regular multi-disciplinary team meetings will be organised to review difficult cases and formulate early management decision. The CWG also recommends nursing professionals to play an active role in the management of GI conditions. For example, under the clinical governance of the medical team, the follow-up of patients with stable chronic hepatitis B infection can be managed in nurse clinics according to clinical guidelines. For patients with more complex needs, case management approach is recommended to assist the group of patients who requires multi-disciplinary and multi-specialty input in the care process.

RESPIRATORY DISEASES SERVICES

The organisation of service will involve multi-disciplinary input from both clinical teams and community partners. NTWC will adopt a cluster-based service model for different aspects of the respiratory service. Illustrated by early diagnosis of lung cancer, integrated multi-disciplinary team will be set up to provide collective input in patient management to facilitate early assessment and subsequent treatment.

PAEDIATRIC SERVICES

The paediatric service in NTWC and the Hong Kong Children's Hospital (HKCH) will work closely together to form a coordinated paediatric service network. NTWC will enhance its capacity in managing acute emergency, secondary services, step-down and community paediatric care for residents in Tuen Mun and Yuen Long districts. The Cluster will adopt an integrated, multi-disciplinary, patient-centred approach, supporting children and adolescents from hospital to community. A paediatric short stay unit is recommended to be set up at POH to provide emergency paediatric services to residents in Yuen Long district.

TRAINING

The CWG recommends experienced trainers from different disciplines in NTWC to form a Trainer Workgroup under the existing Training & Development committee to advise on the training needs and future development on multi-disciplinary training in NTWC. Appropriate training will be planned according to the core competency required for the implementation of various service models proposed by the CWGs.

OBSTETRICS AND GYNAECOLOGY SERVICES

The obstetrics and gynaecology (O&G) services in NTWC are organised as a cluster-based service under single clinical governance to ensure comprehensive and high quality service is provided to residents in all districts covered by the Cluster. In the planning of the new OT Block, new labour and delivery facilities are expected to be developed according to modern standards. The development also brings along the opportunity for the Cluster to develop midwife-led care model for mothers before, during and after delivery. TMH will be the multi-disciplinary platform for management of most gynaecological malignancies. On the other hand, the ambulatory gynaecology centre at POH will continue to play an important role in providing out-patient / day-patient based gynaecology services for residents in the NTWC catchment area.

ROLE DELINEATION

Hospitals in NTWC will adopt a collaborative and coordinated approach to align their services and implement the strategies and service models proposed in this CSP. Services will be organised as a cluster-based service network for different clinical specialties.

TMH will continue to serve as the tertiary referral centre for NTWC, particularly responsible for neurosurgical services, round-the-clock emergency cardiac interventions and acute trauma services. Cancer services will be concentrated at the oncology centre of TMH. The hospital will further develop day and ambulatory care where patient-centred services will be provided without the need for an overnight stay in the hospital.

POH will continue its role as an acute hospital providing emergency services, selected specialist services and ambulatory care services in Yuen Long district. The hospital will provide joint replacement services for the Cluster, and acute / convalescent care for patients admitted through its A&E department. In the long run, leveraging on the future development of TSWH, POH will focus on developing ambulatory care services and strengthen its role on day / short-stay surgery, diagnostic services and breast services.

TSWH will be an ambulatory care focused hospital, which also provides A&E service for the residents in Tin Shui Wai area. Establishment of satellite clinics such as chemotherapy services, palliative care and ambulatory surgical services will be considered at TSWH under the cluster-based governance structure.

The existing role of **CPH** will continue in the provision of comprehensive psychiatric services for the Cluster, gazetted beds for patients admitted under the Mental Health Ordinance, and forensic psychiatry for the whole territory. CPH will also lead the development of community psychiatric services on mental health services for NTWC.

SLH is currently providing comprehensive infirmary and rehabilitation services for patients with severe and profound intellectual disability from different regions of Hong Kong. With the improvement in social support for people with disabilities over the years, the hospital will, in the long run, initiate the discussion to review the current service model according to the changing needs of the patients, for example, shifting its focus from in-patient care to community care.

IMPLEMENTATION ENABLERS

To facilitate the execution of the clinical strategies and delineated hospital roles, a number of key drivers will be necessary as enablers of change, including workforce planning, information technology support, governance structure, business support, and physical design and facilities. For many of the strategies, the changes can and should begin immediately, and need not wait for hospital redevelopment to take place. Overall, a cluster-based committee involving the Cluster Chief Executive and senior staff of the Cluster should be set up to oversee the implementation of the CSP, while the HA Annual Planning process will be the mechanism to secure the resources required for implementing the strategies.

CONCLUDING REMARKS

The CSP capitalises on the wisdom, professionalism and expertise of the NTWC staff to provide the most efficient and patient-centred care for meeting the long-term healthcare needs of the community. The challenges faced by NTWC come with the opportunities to review the Cluster's strategies in clinical services delivery. With new perspectives generated through the formulation of the CSP, new impetus is provided for NTWC staff to provide quality and timely healthcare services for the residents in Tuen Mun and Yuen Long districts. Leadership and staff engagement are keys to the success of CSP implementation in turning the strategies and recommendations into reality.

摘要

概覽

新界西聯網臨床服務計劃闡述聯網的臨床服務策略，擬議聯網內醫院的服務發展、未來醫護模式和角色定位，以配合社區的長遠醫療需要。本計劃同時為聯網未來的大型醫院建設及擴建項目提供規劃及設計指引。

為應付屯門及元朗區的醫療需要，醫院管理局（醫管局）已制定策略，加強新界西聯網的臨床服務。藉此，聯網內的醫院及其他醫療設施將能為社區提供更優質的服務。員工和持份者都積極參與提供意見，未來的醫療服務模式會參照以下策略，提供更便捷、更優質安全及更具成效的服務。新界西聯網將會：

1. 促進跨專業合作文化
2. 在規劃服務時，遵照「在可行情況下於當區提供，只在需要時集中處理」的原則
3. 整合不同層面的服務，以加強醫療服務的連貫性
4. 確立及加強聯網的旗艦服務

這些策略是根據員工就服務發展的遠景而訂立，它們為隨後數章所述的策略和服務發展建議奠定了基礎。

背景

醫管局在規劃公共醫療服務時，會考慮一系列因素，包括人口增長、人口結構變化、區內的服務需求、醫療科技發展和各聯網及醫院的服務安排。

現時，新界西聯網為屯門及元朗區提供公營醫療服務。由於推算區內人口將有所增長，醫管局預料服務需求亦會相應增加。在 2016 年的施政報告中，香港特別行政區行政長官宣佈政府會預留二千億元落實未來十年的醫院發展計劃，以便醫管局擴展及提升醫療設施。當中，屯門醫院手術室大樓擴建工程亦在新界西聯網的發展計劃內。在規劃提升服務量和改善服務時，醫管局會根據不同聯網的需要，制訂臨床服務計劃，勾劃出發展策略和各項服務的模式。

醫管局於 2016 年 3 月著手制訂新界西聯網臨床服務計劃，勾劃聯網的臨床服務策略、擬議服務發展及未來醫療服務模式，以配合社區的長遠醫療需要。本計劃同時確立聯網內各醫院的角色定位及協調其服務範疇，善用設施和資源，從而提供更優質和有效率的醫療服務。本計劃所建議的服務模式，將指引聯網醫院設施的規劃和興建。

項目管治及制訂方法

本計劃由一個項目委員會負責監督整個制訂過程。該委員會由新界西聯網總監及醫管局總辦事處策略發展總監一同擔任主席，成員包括聯網的臨床及資深管理人員，以及屯門醫院、博愛醫院、青山醫院 / 小欖醫院及天水圍醫院管治委員會的主席。醫管局的總監會議亦為計劃提供整體策導，並定期聽取項目委員會的匯報。

新界西聯網及總辦事處亦組成了一個規劃小組，負責統籌及制訂本計劃，並由一名經驗豐富的海外醫療服務策劃專家擔任顧問，協助進行諮詢及為計劃提供意見。在聯網的醫療服務委員會會議上，各部門主管亦有定期聽取計劃的進度報告，討論及協調各服務計劃建議。除此之外，本計劃亦成立了一個顧問委員會，負責檢視專家顧問提交的諮詢結果及建議，並向項目委員會提供意見。

新界西聯網臨床服務計劃的制訂過程嚴謹，過程中得到聯網內不同持份者和臨床人員的廣泛參與。首先我們進行了專科為本的縱向諮詢，以問卷調查及與所有部門的前線醫護人員面談去收集意見；然後規劃小組進行了跨專科的橫向諮詢，並成立了 14 個跨專業、跨醫院、跨專科的臨床工作小組，為臨床項目的未來發展提供建議。最後，我們舉辦了為期一天的研討會，匯報及討論工作小組的建議，並總結橫向諮詢結果。

我們在 2016 年 12 月 30 日至 2017 年 2 月 1 日就計劃初稿向約 430 位主要持份者蒐集意見和建議，包括聯網的臨床及管理人員、聯網醫院管治委員會，以及總辦事處的資深行政人員。所得的建議經由項目委員會詳細分析及討論，並用作優化計劃內容的基礎。

修訂後的計劃經由總監會議批核，並由醫療服務發展委員會通過。

主要挑戰

在勾劃新界西聯網未來的服務模式及各醫院的角色定位時，聯網現時應對的多項主要挑戰亦有納入考慮因素之內。而這些挑戰亦可視為改善及提升服務質素的機遇。

一、**區內人口增長及老化令服務需求增加**。隨著屯門及元朗陸續開發新發展區，區內人口在 2014 年中至 2024 年中期間，預計會增加 13%。當中年輕人及長者人數的增長，更高於香港整體平均數字。根據醫管局的服務使用數據，長者的住院風險約為非長者的四倍。數據亦顯示，大約一半的住院病床總日數是由 65 歲以上的長者使用。另外，超過 75% 的長者患有一種或以上的慢性疾病。[1] 人口急劇老化將對聯網的醫療系統構成重大壓力。此外，政府建議的新市鎮發展計劃，如洪水橋新發展區和元朗南發展區，將進一步增加元朗區的人口。

二、**現有醫療服務未能滿足區內需要**，例如兒科及婦科的急症服務、腫瘤科及 24 小時緊急外科手術服務現時只在屯門醫院提供。在 2014-15 年，約有 11,000 名病人因此需由博愛醫院急症室轉送屯門醫院。此外，由於屯門及元朗並沒有私家醫院，故此聯網居民需極依賴公共醫療服務。在醫管局各聯網中，新界西聯網覆蓋區域的住院病人出院人次為各聯網之冠。

三、**聯網在服務安排及模式方面亦面對著挑戰**。過去幾年，屯門醫院在手術成效監察及改善計劃中表現未如理想，聯網希望檢討服務安排及模式，制訂改善策略，以確保手術服務的質素，繼續為區內居民提供服務。

1. “從綜合住戶統計調查搜集所得的社會資料 : 專題報告書 - 第 27 號報告書” (2001) — 政府統計處出版

隨著慢性疾病越趨普遍及人口壽命延長，區內病人對醫社服務的整合和協調有將有更高的期望。在現行的疾病管理模式中，聯網需要加強整合住院病人服務、社區服務和基層醫療服務。因此，聯網應檢討其服務安排及醫護模式，採用綜合協調方式支援區內病人，尤其是長者病人。另外，預料屯門藍地將有一所大型安老院落成。這項建設會為新界西聯網帶來服務需求之外，也促進了醫社合作服務模式的發展，配合區內長者病人的需要。

四、隨著聯網附近區域的**大型基建相繼落成**，例如屯門至赤鱲角連接路，我們預計區內的醫療需求及服務使用模式可能改變。聯網視這些新發展為改善服務的契機。

策略框架

考慮過上述挑戰、聯網的優勢及發展潛力後，我們訂立了一個策略框架，為制訂臨床服務方針作出指引。框架的基本原則與臨床服務方針相輔相成，回應各項主要挑戰。框架內的主要策略建議將闡述如下：

1. **促進跨專業的合作文化**：跨專業模式有利結合不同醫護人員的知識專長，讓大家集思廣益，提供以病人為中心的服務。
2. **在規劃服務時，遵照「在可行情況下當區處理，只在需要時集中處理」的原則**：鑑於新界西聯網涵蓋地區廣泛，處理一般疾病的醫療服務大多應分區提供，例如長者慢性疾病治理、急性疾病的康復及緊急手術服務；而需要先進技術或豐富專業知識的服務則會集中處理，確保聯網覆蓋的各區均有適切及優質的醫療服務。
3. **整合不同層面的服務，以加強醫療服務的連貫性**：綜合和全面的醫療服務會使病者得到的服務更加流暢，從而減少住院個案及過份依賴住院服務，並為聯網內日增的病人（尤其是長者病人）提供連續和高質素的服務，讓病人在最適切的環境接受照顧。
4. **確立及加強新界西聯網的旗艦服務**：透過提升聯網的醫療設施，並把握現有的服務優勢，為居民提供更佳服務。諮詢過程顯示，新界西聯網在服務安排及以病人為本的護理方面有多項超卓服務，例如社區精神健康服務和法醫精神科服務。

臨床服務項目

按照上述的策略框架，新界西聯網制定了不同臨床服務項目，並描述聯網內各醫院的角色及功能，以一同應對挑戰。本計劃除載列 **14 個跨專業和跨專科臨床工作小組（工作小組）**的建議外，亦包括**婦產科服務**的計劃。各臨床服務項目的建議如下：

慢性疾病管理

為提升聯網的慢性疾病管理，工作小組建議加強慢性疾病護理模式中的關鍵元素，以改善成效。當中包括改善急症治理、基層醫療及社區護理之間的服務安排，讓各層面的服務更為連貫。工作小組亦建議採用共同護理的模式，讓病人在最適切的環境接受治療。此外，聯網會進一步擴展健康風險評估跟進護理計劃，以及病人自強計劃，提升病人自我管理慢性疾病的能力。跨專業的護理模式需同時配合有效率的臨床資訊系統，讓不同醫療單位能夠方便地取覽病人資料。

長者醫療護理

人口老化是新界西聯網面對的重要挑戰之一。就住院服務方面，工作小組建議為不同部門加強長者醫療護理的支援，包括急症室、骨科、外科、精神科及腫瘤科等。聯網亦會為居於安老院舍及社區的長者，提升社區服務，特別是透過醫社合作的計劃，加強安老院舍的醫療支援和長者離院後的綜合支援。醫院、安老院舍和非政府機構之間亦需定期交流和分享經驗。

精神健康服務

聯網會在各層面提供全面及以病人為中心的精神健康服務。服務模式包括三個主要元素，旨在：i) 為一般精神病治療建立可持續發展模式；ii) 建立以聯網為基礎的全面諮詢會診服務，處理病人生理和心理健康的需要；iii) 加強社區精神健康服務，在不同服務層面支援嚴重精神病患者。

癌症服務

聯網將會提供適時、綜合、個人化和以病人為中心的全面癌症服務。病人在整個治療過程中需接受不同層面的臨床服務，包括基層醫療、專科治理以至長期護理。在不同階段，聯網都會為癌症病人提供跨專業醫療護理。工作小組建議採用個案管理模式處理常見癌症，亦會透過共同護理模式為康復的病人提供長期的跟進服務。基層醫療醫生可為復發或併發風險較低的病人繼續跟進治療後的康復過程。大部份跨專業的合作將繼續集中在屯門醫院，而小組亦建議在博愛醫院增加腫瘤科及紓緩治療服務，並考慮在天水圍醫院設立化療及紓緩治療服務附屬中心。

手術服務

手術醫療護理的服務模式旨在提升病人在手術前、手術期間及手術後的照顧。整個治療過程由術前的風險評估開始，到確保病人的狀況適合進行手術，以至術後的護理也會全面配合。工作小組建議設立由麻醉科醫生、外科醫生、深切治療科醫生、內科醫生、專職醫療及護理人員組成的手術團隊，在整個治療過程中為病人提供適時支援。藉此模式，希望能提升臨床服務流程的效率，促進低風險病人的康復，及讓高風險病人能在適切的環境得到醫護團隊的適時觀察和管理。

緊急外科服務

工作小組建議以聯網為基礎，為區內的居民提供緊急外科服務。聯網內的三間急症醫院會在同一管治架構下組成綜合服務網絡，支援緊急外科服務。其中，博愛醫院將增設 24 小時的緊急外科服務，聯同天水圍醫院急症服務的啟用，元朗區大部份緊急外科個案將由這兩間醫院處理。屯門醫院作為第三層轉介中心，則繼續提供全面的緊急外科服務，包括創傷治療及其他附屬專科服務。按照聯網為基礎的程序及清晰的入院準則，病人會被分流到最適切的地點接受治療。而聯網內各醫院的急症科病房亦會根據臨床程序，盡快為病人進行評估及檢查，以支援這個綜合服務網絡。

肌肉骨骼服務

因應肌肉骨骼相關疾病的服務需求不斷增加，工作小組建議為長者骨折治療設立新的服務模式，加強老人科和骨科之間的協作。小組亦建議發展跨專業的「骨骼與關節」綜合日間醫療服務模式。建議中的老人科和骨科協作醫療服務模式，將會制訂長者骨折入院的臨床醫療護理流程，涵蓋急症治理、康復，以至協助病人重返社區。工作小組並建議在聯網設立日間醫療中心，為肌肉骨骼疾病患者提供一站式服務。中心將採用跨專業協作的模式運作，提供理想的日間治療環境。經訓練的醫護人員如專科護師，會根據程序為病人進行分流、評估和治療。

日間醫療服務

聯網致力為病人提供便捷、以病人為中心、全面及協調的服務。工作小組建議為急症病人設立日間醫療服務，以減少急症入院個案。此外，服務亦可支援非緊急醫療程序，加快病人出院時間。另外，接受非緊急手術的病人將按照臨床程序作好準備，配合順暢的流程，便利他們於同日接受手術及出院。成功的日間醫療服務模式需配合快速診斷檢查的支援，例如放射檢查及電描診斷檢查。

心臟科服務

聯網會採用跨專業及綜合的心臟科醫療服務模式，應對人口增加的挑戰。以聯網為基礎的心臟科服務將涵蓋缺血性心臟病和充血性心臟衰竭的治理，以及加強心臟病的康復服務。

神經科學服務

工作小組建議成立以聯網為基礎、跨專業及全面的服務模式，為腦神經科病人提供綜合治療。屯門醫院、博愛醫院及天水圍醫院將協力提供由基本至先進的神經科學服務。臨床神經科學服務會集中在屯門醫院提供，綜合處理神經科疾病。跨專業團隊包括腦神經科醫生、神經外科醫生、放射科醫生、腫瘤科醫生、精神科醫生、血管外科醫生、護理及專職醫療人員。屯門醫院將繼續作為新界西聯網治療中風及神經外科疾病的第三層轉介中心。

腸胃科服務

工作小組建議設立綜合腸胃科病房，為高危病人提供治療。病人會由外科團隊及腸胃科醫生聯合治理，而跨專業的專職醫療團隊亦會提供意見。另外，團隊會制訂醫療程序方案以治理腸胃癌症病人。跨專業團隊會定期召開會議，檢視複雜個案，並盡早制訂治療計劃。工作小組亦建議加強護士在腸胃科服務裡的角色，例如在醫療團隊的臨床督導下，可根據臨床指引，讓病情穩定的慢性乙型肝炎病人在護士診所覆診；而較複雜的個案則會採用個案管理形式，支援有需要的病人。

呼吸系統疾病服務

醫療團隊與社區夥伴會以跨專業協作方式一同提供呼吸系統疾病服務。各類呼吸系統疾病會採用聯網為基礎的服務模式。例如在肺癌的治理過程中，跨專業團隊會一同參與，為病者盡早作出評估及跟進治療。

兒科服務

新界西聯網和香港兒童醫院將會緊密合作，組織兒科服務網絡。聯網亦會提升服務量，為屯門及元朗區居民提供兒科急症、第二層醫療、康復及社區醫療服務。聯網並會採用跨專業的綜合服務模式，支援病童由醫院過渡至社區護理。工作小組建議在博愛醫院設立兒科短期住院病房，為元朗區居民提供緊急兒科服務。

培訓

工作小組建議在現時的培訓及發展委員會下，成立導師工作小組。小組由聯網內不同界別的導師組成，它會就聯網的培訓需要及跨專業培訓的未來發展提供意見。聯網會根據以上各臨床工作小組建議，制訂不同的培訓項目，以滿足服務模式發展的需要。

婦產科服務

新界西聯網的婦產科服務的規劃以聯網為基礎，在一個臨床管理架構下運作，以確保區內居民獲得全面及優質的服務。在屯門醫院手術室大樓擴建工程中，新的產房及分娩設施的標準將有所提升。此項目可同時帶動聯網發展由助產士主理的服務模式，為在分娩前、中及後不同階段的產婦提供護理。屯門醫院將會是治療大部分婦科癌症的跨專業協作平台。此外，博愛醫院的日間婦科中心會繼續為聯網內各區居民提供婦科門診 / 日間服務。

角色定位

新界西聯網的醫院會透過互相合作及協調，理順各項服務，並落實本計劃建議的策略和服務模式。不同的臨床專科會以聯網為基礎的形式提供服務。

屯門醫院會繼續擔當新界西聯網第三層轉介中心的角色，如提供神經外科、24 小時緊急心臟介入服務及急性創傷服務。癌症服務亦會集中由該院的腫瘤中心提供。屯門醫院並將繼續以病人為中心的原則，加強發展日間及非住院醫療服務，減少病人住院需要。

博愛醫院會繼續其作為急症醫院的角色，為元朗區居民提供急症服務、特定專科服務及日間醫療服務。該院會為聯網提供關節置換服務，並為透過該院急症室入院的病人提供急症和康復服務。長遠來說，藉著天水圍醫院未來的發展，博愛醫院將會專注發展日間醫療服務，並加強其日間 / 短暫住院手術服務、診斷服務及乳腺專科服務。

天水圍醫院將主要提供日間醫療服務，同時為天水圍的居民提供急症室服務。根據聯網為基礎的管治架構，醫管局將考慮為某些服務在該院設立附屬中心，如化療服務、紓緩治療和日間手術服務。

青山醫院會繼續其現行角色，為聯網提供全面的精神科服務，並為全港因精神健康條例入院的病人及法醫精神科提供病床。在精神健康服務方面，青山醫院亦會帶領聯網發展社區精神科服務。

小欖醫院現時為全港各區嚴重及極度嚴重智障人士提供全面療養及康復服務。隨著社會支援改善，及因時而異的醫護需要，該院長遠會討論服務轉型，例如將服務重點由住院護理轉為社區護理。

落實推行

實施各項臨床策略及履行各醫院的角色定位需要多方面配合，包括人力規劃、資訊科技支援、管治架構、業務支援，以及實體設計和設施。大部分在本計劃載列的策略，可即時展開相關工作，毋須等待醫院重建後才實行。聯網應成立一個聯網委員會，成員包括聯網總監及資深人員，以監察計劃的落實進度，並透過醫管局周年工作計劃的機制，申撥所需資源實施各項策略。

總結

新界西聯網臨床服務計劃將聯網人員的睿見、專業精神及知識專長充分發揮，以提供具效率及以病人為本的服務，滿足區內居民對醫療服務的長遠需求。聯網面對的挑戰，同時是檢視服務策略的契機。在制訂計劃的過程中所衍生的新觀點，給聯網人員注入動力，為屯門和元朗區居民提供優質及適時的醫療服務。本計劃成功的關鍵，在於有效的領導及員工的積極參與，將各項策略和建議落實推行。

Introduction

BACKGROUND AND PURPOSE OF THE PLAN

The purpose of the Clinical Services Plan (CSP) for the New Territories West Cluster (NTWC) is to provide an overarching strategy to inform the future service development and role of hospitals in NTWC.

In the planning of public healthcare services, the Hospital Authority (HA) takes into account a number of factors including population growth, demographic changes, service demand of local communities, advancement in medical technology, as well as organisation of services of its clusters and hospitals. Alongside capacity enhancement, HA seeks to strengthen the service model from a system perspective so as to improve the quality and efficiency of its services, as well as to address the changing needs and expectations of the general public on the healthcare system. Hence, using a highly participative approach, HA formulates CSPs for individual clusters to map out the development strategies and service models of different services according to the healthcare needs in different clusters. This CSP covers a planning horizon of around 10 years.

NTWC is providing public healthcare services for Tuen Mun and Yuen Long. Since the 1970s, the demand for public healthcare services in the two districts has been growing along with the population intake under various new town development programmes[2]. With more new development areas around Tuen Mun and Yuen Long districts, it is anticipated that the total population will rise by 13% from mid-2014 to mid-2024. There are currently five hospitals in NTWC, namely Tuen Mun Hospital (TMH), Pok Oi Hospital (POH), Tin Shui Wai Hospital (TSWH), Castle Peak Hospital (CPH) and Siu Lam Hospital (SLH). Four specialist out-patient clinics (SOPCs) and eight general out-patient clinics (GOPCs) are also under the management of NTWC. In the Policy Address 2016-17, the Chief Executive of Hong Kong Special Administrative Region (HKSAR) announced that the Government would set aside a dedicated provision of $200 billion for a ten-year hospital development plan, enabling HA to expand and upgrade its healthcare facilities to meet service needs. Included in the ten-year plan is the construction of a new extension to the Operation Theatre (OT) Block of TMH.

HA began to formulate the CSP for NTWC in March 2016. The CSP maps out the Cluster's clinical strategies, intended service development, and future service models for meeting the long-term healthcare needs of the community. At the same time, it also delineates the roles of the individual hospitals in NTWC, and aligns their service profiles to optimise the utilisation of facilities and resources for providing better and more efficient healthcare services.

2. *Hong Kong: The facts. New towns, new development areas and urban developments. Civil Engineering and Development Department. May 2016.*

The service models proposed in the CSP will inform physical designs, and thus guide the planning of future hospital facilities in NTWC. To prepare for future re-development and expansion projects such as those for TMH and POH, Master Development Plans (MDPs) will be developed based on the CSP. Further opportunity in the expansion of TSWH will also be considered.

ABOUT THE NEW TERRITORIES WEST CLUSTER

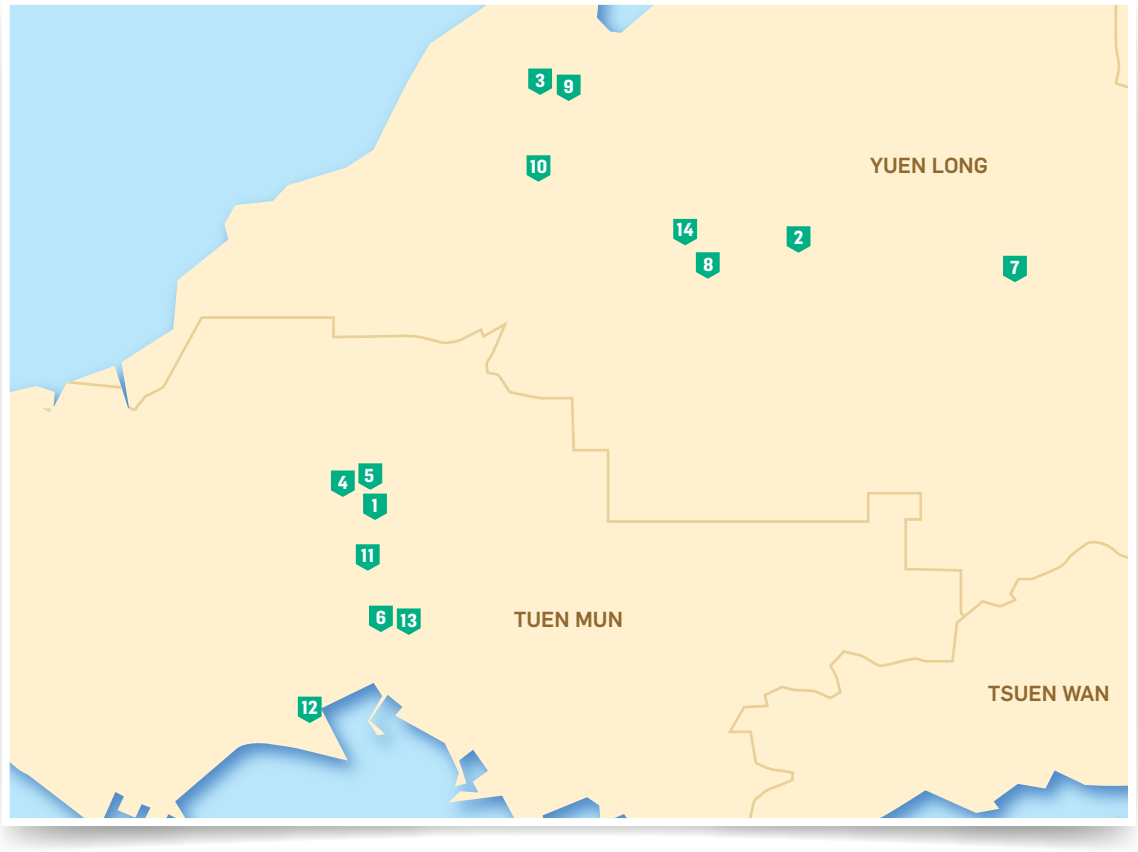
Established in 2002, NTWC is the third largest cluster in HA in terms of population in its catchment districts of Tuen Mun and Yuen Long. The total population of these two districts is around 1.1 million. The Cluster provides a comprehensive range of services including acute, convalescent, rehabilitation, infirmary, ambulatory, primary and community care services to the local residents. The presence of two specialty hospitals (CPH and SLH) that focus on mental health services is also a unique feature among HA clusters. In addition to providing a range of comprehensive psychiatric services to the local population, CPH also provides forensic psychiatric services to the whole territory. SLH is the only hospital in HA providing comprehensive rehabilitative and infirmary services exclusively for patients with severe intellectual disability aged 16 or above.

NTWC managed a total of 4,259 beds as at 31 March 2016[3], including 2,448 for acute, convalescent and rehabilitation care, 135 for infirmary care, 500 for mentally handicapped care and 1,176 for psychiatric care. Patient care services are delivered through a workforce of around 9,300 staff[4]. In terms of service throughputs, in 2015-16 the Cluster managed approximately 339,700 accident and emergency (A&E) first attendances; 140,700 in-patient and 75,500 day patient discharge episodes; 940,000 SOPC attendances[5], and 872,000 GOPC and family medicine (FM) specialist clinical attendances[6].

The organisation structure of NTWC is presented in **Appendix I**, while the locations of the Cluster's healthcare facilities are indicated in Figure 1.

3. HA Report on Annual Survey on Hospital Beds in Public Hospitals 2015/16. This reference applies to all bed figures in this chapter.
4. Number of full-time equivalent staff (as at 31 March 2016), HA Annual Report 2015-16. This applies to all workforce figures in this chapter.
5. SOPC attendances include attendances from nurse clinics in SOP setting.
6. GOPC attendances include attendances for doctor consultations, attendances from nurse clinics in GOP setting and attendances in related healthcare reform initiative programmes in primary care.

Figure 1. Map of healthcare facilities of the New Territories West Cluster



		Hospital/ Institution	Specialist Out-patient Clinic	General Out-patient Clinic
1	Tuen Mun Hospital ✚	√	√	
2	Pok Oi Hospital ✚	√	√	
3	Tin Shui Wai Hospital ✚	√	√	
4	Castle Peak Hospital	√	√	
5	Siu Lam Hospital	√		
6	Tuen Mun Eye Centre		√	
7	Kam Tin Clinic			√
8	Madam Yung Fung Shee Health Centre			√
9	Tin Shui Wai (Tin Yip Road) Community Health Centre			√
10	Tin Shui Wai Health Centre (Tin Shui Road)			√
11	Tuen Mun Clinic			√
12	Tuen Mun Wu Hong Clinic			√
13	Yan Oi General Out-patient Clinic			√
14	Yuen Long Jockey Club Health Centre			√

HOSPITALS OF THE CLUSTER

Tuen Mun Hospital

In virtue of the growing service demand and the rapid development of the Tuen Mun new town, the planning of TMH complex began in 1979. The hospital was designed by the Architectural Services Department and topped out in 1986. At that time it was the largest hospital under construction in the world. After more than ten years of planning and construction, TMH was put into operation on 8 March 1990.

TMH, situated in northern Tuen Mun, is the largest acute hospital in NTWC both in terms of hospital bed number and service throughput. In particular, the hospital functions as the tertiary referral centre for NTWC for the management of patients with complex medical needs. Examples of such services include clinical oncology, acute major trauma and neurosurgical services. It provides a comprehensive range of acute, convalescent / rehabilitation, ambulatory and community services by 17 clinical specialties. Besides, TMH also provides a full range of allied health (AH) services. As at 31 March 2016, TMH managed 1,884 beds with a workforce of around 6,377 staff.

As TMH was designed in the 1970's, constraint in clinical areas and physical facilities has become a limiting factor for the hospital to meet the evolving healthcare needs of the district. In view of this, new facilities were introduced at different times to enhance its service capacity. In 2001, the Ambulatory Care Centre was introduced to house the SPOC, and the Rehabilitation Block of TMH was constructed and opened in August 2007 to provide a range of new services to patients who require continuous treatment and intensive rehabilitation. In the new building, AH services are provided on ward floors and rehabilitation facilities are integrated with ward facilities.

Pok Oi Hospital

POH was founded by local community leaders in 1919 for serving the residents in Yuen Long. As the Government started to develop the Yuen Long new town in the 1970s, population and the demand for public healthcare services were on the rise. The old POH was then unable to cope with the increasing demand that accompanied the growth in local population. In 1998, the Government decided to support the re-development and expansion of POH at its original site. A new building was constructed according to modern hospital standards, and the construction works were completed in 2006. Services of POH were relocated to the new building in the same year.

POH is an acute hospital providing A&E services, selected specialist services and there is a strong presence of ambulatory care component. As at 31 March 2016, it managed 719 beds (including the infirmary beds at Tin Ka Ping Infirmary) with a workforce of around 1,700 staff.

POH has been working closely with TMH in various clinical areas. In particular, POH has developed its Ambulatory Services Centre in the Cluster providing one-stop mixed specialty services. It comprises day surgery unit, day urology services, day ward & pre-operative assessment services, advanced wound specialty service, endoscopy unit, electro-medical diagnostic unit, and Wai Yin Association Ambulatory Gynaecology Centre. Moreover, it provides breast surgical service for the whole Cluster through the NTWC Breast Services Centre which was established in September 2008. In 2015, POH started to operate the Cluster's Total Joint Replacement Centre.

POH also offers services in many specialties, including NTWC Diabetes Centre, Rheumatology Assessment and Treatment Centre, family medicine out-patient services, and community psychiatric service for the residents of Yuen Long.

For infirmary service, POH Tin Ka Ping Infirmary has commenced its service since August 1994. The infirmary placements in three wards are centrally coordinated and allocated by the HA Central Infirmary Waiting List.

POH has also been committed to green and environmental protection activities. In the past years, various measures and activities on energy saving and waste reducing were implemented. The achievements of the hospital were recognised by the Asian Hospital Management Asia Award 2011 and it is the first hospital in Hong Kong to be awarded as a Hong Kong Green Organisation.

Tin Shui Wai Hospital

Tin Shui Wai area is the second new town in Yuen Long and has been one of the fastest growing areas in Hong Kong. In view of the population and characteristics of Tin Shui Wai new town as well as the increasing demand for hospital services in NTWC, the HKSAR Government committed to building a hospital in Tin Shui Wai to enhance the service capacity for the local community in the Policy Address 2008-09. The hospital is located adjacent to Tin Wah Estate and Chung Fu Light Rail Station and the construction work was completed in 2016.

The hospital has commenced services in phases starting from 2016-17, providing A&E services, in-patient services, ambulatory and community care services for the residents in Tin Shui Wai area.

Castle Peak Hospital

Opened in 1961, CPH is the psychiatric hospital with the longest history in Hong Kong. After several decades of services, the physical conditions and facilities of the hospital required significant improvements. Facilities of CPH were upgraded in the redevelopment project of the hospital, which consisted of two phases and was completed in 2006. The modern and new facilities help to improve the outcome of treatment, rehabilitation of patients and their re-integration into the community.

Under the management of NTWC, CPH provides general psychiatric admissions for the residents of Tuen Mun and Yuen Long districts. Admission of patients can be either voluntary or involuntary under the Mental Health Ordinance (cap 136). SOP services are also delivered at the Tuen Mun Mental Health Centre located at CPH. Consultation and liaison services are provided to other hospitals within NTWC. It provides a range of comprehensive psychiatric services, including psychiatric in-patient, ambulatory, community mental health services and plays an important role in mental health education. As at 31 March 2016, CPH managed 1,156 beds with a workforce of around 1,400 staff.

Treatment and care are provided through multi-disciplinary teams, which consist of doctors, nurses, clinical psychologists, social workers, occupational therapists, pharmacists, physiotherapists, dietitians and other AH professionals. The teams provide patients with professional assessment and personalised treatment, through both hospital and community care. Modern psychiatric treatment are available at CPH, including pharmacological modalities, psychological interventions, occupational therapy, physiotherapy, electro-convulsive therapy, social skills training and various kinds of psycho-social rehabilitation programmes.

CPH is also a training centre for trainees in medical, nursing, occupational therapy and other relevant professional fields. Its training programme for psychiatric trainees is recognised by the respective Colleges of Psychiatrists in Hong Kong, the United Kingdom, Australia and New Zealand.

Siu Lam Hospital

Originally located in Tai Lam Valley, SLH is the first hospital to serve patients with severe intellectual disability in Hong Kong. It was built with a grant from the Royal Hong Kong Jockey Club and was opened back in 1972. The hospital was relocated to the current premises adjacent to CPH and TMH in 2012.

An extensive range of services is delivered at SLH including comprehensive rehabilitative and infirmary services, occupational therapy, physiotherapy, prosthetic & orthotic services, medical social services, outreach services, and social education training. It provides professional, quality and comprehensive intellectual disability service to patients and their carers through multi-disciplinary teams, community collaboration, training and research. Today, SLH is the only hospital under HA providing comprehensive rehabilitative and infirmary services exclusively for patients with severe intellectual disability aged 16 or above. As at 31 March 2016, SLH managed 500 beds with a workforce of around 450 staff.

Regarding environment and facilities, the new hospital premises is furnished with modern facilities to enhance the treatment and rehabilitation for patients. The installation of ceiling hoists, close circuit television monitoring system and audio-visual equipment in wards further facilitates patient care. Moreover, the rehabilitation gardens, multi-sensory room, computer-aided rehabilitation training room and auxiliary equipment also help to improve clinical outcome.

OTHER FACILITIES

Tuen Mun Eye Centre

The Cluster's ophthalmology service is provided in Tuen Mun Eye Centre (TMEC), which is located at a satellite site near Tuen Mun town centre. The centre currently provides out-patient-based eye services and eye operation for patients in NTWC.

Tin Shui Wai (Tin Yip Road) Community Health Centre

Tin Shui Wai (Tin Yip Road) Community Health Centre (CHC) was opened in 2012. It is the first health centre with design based on the Government's primary care development strategy and service model. Patients can receive comprehensive primary care services provided by multi-disciplinary primary care professionals in this one-stop centre. The centre offers medical and nursing consultations in the GOPC and health risk assessment services. Collaborating with non-government organisations (NGOs), the centre also provides health education and psychological counselling services. In 2015-16, it managed around 70,000 attendances.

Planning Process

Yeung Uk Tsuen, Yuen Long / 元朗楊屋村

GOVERNANCE

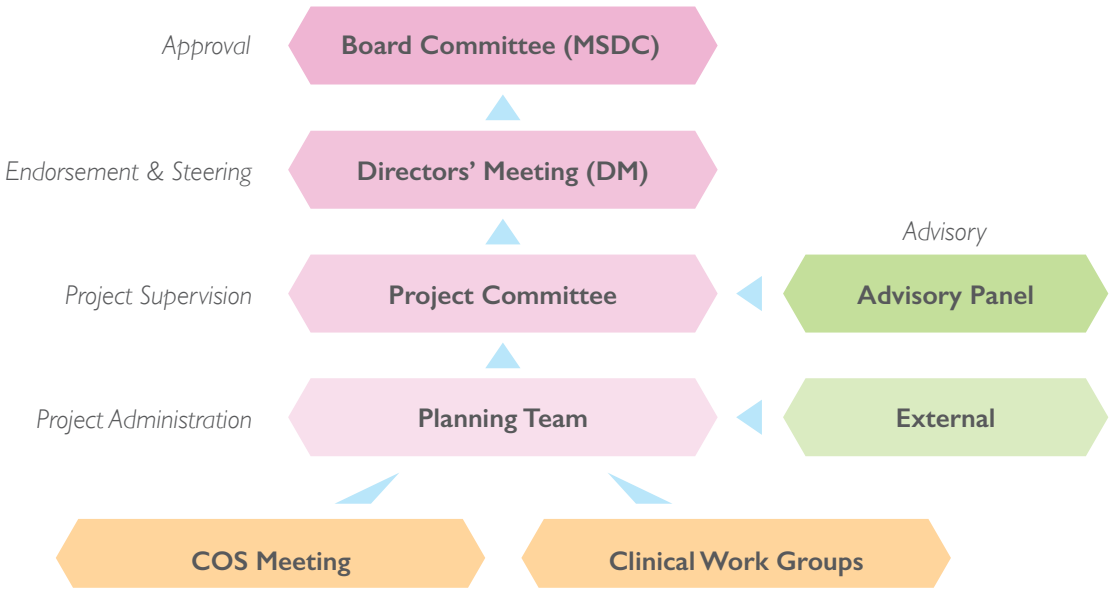
The development of the NTWC CSP was overseen by a Project Committee jointly chaired by the Cluster Chief Executive of NTWC and the Director of Strategy and Planning from the Head Office (HAHO), with members including NTWC clinicians, senior management, and chairpersons of the Hospital Governing Committees (HGCs) within the Cluster. The Project Committee regularly reported to the Directors' Meeting (DM) which provided an overall steer to the project.

To carry out and coordinate the project, a Planning Team was formed with members from both NTWC and HAHO. The Planning Team was supported by an experienced overseas healthcare service planner, who was engaged as an external consultant to carry out the consultation process and provide input to the project. Meanwhile, the project progress was reported to the Cluster Medical Services Committee where the Chiefs of Service (COS) in NTWC deliberated and aligned service proposals in developing the CSP. In addition, an Advisory Panel was formed to review and comment on the observations and recommendations made by the external consultant and to provide advice to the Project Committee.

The membership and terms of reference of the Project Committee, Advisory Panel, Planning Team, and Cluster Medical Services Committee are set out in **Appendix 3**.

Following the formulation, the draft NTWC CSP was deliberated and then submitted to the DM for endorsement and to the Medical Services Development Committee (MSDC) for approval. The overall governance structure of the project is illustrated in Figure 2.

Figure 2. Project governance structure



METHODOLOGY

The NTWC CSP was developed through a highly interactive and broad engagement approach with the involvement of a wide range of stakeholders from the Cluster, including experienced clinical staff such as doctors, nurses, pharmacists and AH professionals, as well as senior management and members of HGCs of all the Cluster hospitals. The process is outlined in the following sections.

STAFF BRIEFING

In March 2016, a cluster briefing forum was conducted to introduce the development of the CSP to the Cluster staff. Around 550 clinical service heads, senior clinical staff and executives from across NTWC participated in the forum. They were briefed about the project and invited to participate in the planning process.

After the briefing forum, a two-phase consultation process was carried out in the subsequent months, which covered "vertical specialty-based" and "horizontal programme-based" consultations. Details of the consultations are described in the ensuing paragraphs.

VERTICAL SPECIALTY-BASED CONSULTATION

This phase of specialty-based consultation involved a questionnaire survey and face-to-face interviews. The aim was to consolidate views from key stakeholders on the current service profiles, perceived key service gaps and future development at the hospital and cluster levels. Key challenges of the services were also identified in the process.

Survey

In March to April 2016, a questionnaire survey was distributed to each clinical unit and department in NTWC. The overall response rate for the survey was 99% (out of a total of 170 recipients). The completed surveys formed the basis of discussions for the subsequent face-to-face interviews.

Face-to-face interviews

Two rounds of face-to-face interviews were conducted between May and June 2016. A total of 82 sessions were conducted with 236 participants interviewed, involving service heads, frontline medical, nursing, AH and pharmacy staff and hospital management (including the chairperson of the HGC of each hospital).

The first round of interviews involved the COSs of hospital departments, service directors, service coordinators, specialty team heads and the department managers. In the second round of interviews, the sub-specialty team heads and their team members were interviewed. In addition, views were sought from the chairpersons of the HGCs and also the Hospital Chief Executives on the future service development of the NTWC hospitals.

HORIZONTAL PROGRAMME-BASED CONSULTATION

The second phase of the consultation was conducted between June and September 2016 and involved the formation of 14 programme-based Clinical Work Groups (CWGs). The purpose of the CWGs was to provide a platform for stakeholders from different disciplines, specialties and hospitals in NTWC to formulate cluster-based proposals together on the future development of specific clinical programmes, taking into consideration the key challenges of the services that needed to be addressed.

The chairmanship of the CWGs was recommended by the Planning Team during the course of the face-to-face interviews, with inputs from the external consultant and the Cluster Medical Services Committee, and agreed by the Project Committee. Altogether, around 300 frontline colleagues were engaged in this phase of the consultation process.

A one-day seminar was held on 7 October 2016, where the CWGs presented their proposals for deliberations, marking the conclusion of this consultation phase. The seminar was facilitated by the Director of Strategy and Planning of HAHO and attended by around 230 participants, including the Chief Executive of HA, the Cluster Chief Executive (CCE) of NTWC, clinicians, nurses, pharmacists, AH professionals and other HA executives, as well as the HGCs in NTWC. The CWGs' proposals are summarised in the chapter on Clinical Service Programmes.

ROLE DELINEATION

Based on the information and deliberations from the two phases of consultation, the future roles of the hospitals in NTWC were delineated.

DEMAND PROJECTION

Projections on the service demand and bed requirements for NTWC were estimated up to the year 2031. The projections took into account the demographic and population changes, past trends of HA-average age-gender-specialty-specific service utilisation, as well as the hospital patronage pattern across districts.

POLICY OVERLAY

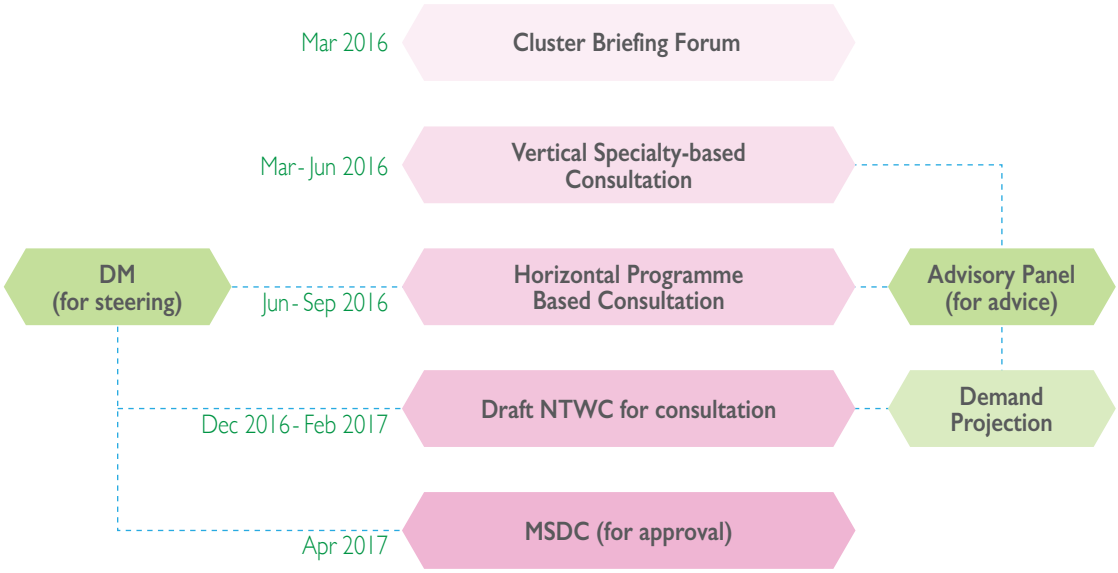
Members of the DM provided policy overlay for the development of the NTWC CSP. This involved decisions at high level, incorporating broad considerations of the views of various stakeholders, including relevant government bureaux and the HA Board.

CONSULTATION OF THE DRAFT CSP

The draft NTWC CSP was made available to around 430 key stakeholders between 30 December 2016 and 1 February 2017 to solicit feedback and suggestions. The stakeholders included clinical and management staff from the Cluster, the HGCs of the NTWC hospitals, as well as senior executives from HAHO. Responses received were carefully reviewed and deliberated by the Project Committee, and were used as a basis to refine the CSP.

An overview of the process and methodology for the development of the NTWC CSP is illustrated in Figure 3.

Figure 3. Process and methodology for the development of NTWC CSP



Key Challenges

Por Lo Shan, Tuen Mun / 屯門菠蘿山

The formulation of NTWC CSP was started by first identifying the key challenges faced by the Cluster. Through the interactions with colleagues in NTWC, key challenges were identified after considering the anticipated change in the external environment, population demographics, as well as gaps in the services provided in NTWC. They were taken into consideration during the process of mapping out the future service delivery models and delineation of each hospital within NTWC. However, the challenges can also be viewed as opportunities for NTWC to refine and improve on its services. This chapter summarises these important challenges that the Cluster has visualised during the formulation of the clinical strategies and recommendations.

ESCALATING SERVICE DEMAND ARISING FROM POPULATION GROWTH AND AGEING

With new development areas around Tuen Mun and Yuen Long, it is anticipated that the total population and thus the service demand will rise significantly. According to the population projection of the Planning Department[7] , the population covered by the catchment area of NTWC will increase from 1.09 million to 1.24 million between mid-2014 and mid-2024 (representing a 13% rise), and NTWC catchment population will account for 16.0% of Hong Kong population by 2024.

With regard to the projected age structure of the population in NTWC, the proportions of elderly population (aged 65 and over), working age population (aged 15 to 64) and young age population (aged 0 to 14) will all increase between 2014 and 2024. (Table 1)

Table 1: Population growth of respective age group between mid-2014 and mid-2024

Age Group	Tuen Mun	Yuen Long	NTWC	Hong Kong
0-14	+25%	+15%	**+19%**	**+14%**
15-64	-3%	+4%	+1%	-4%
65+	+93%	+86%	**+90%**	**+58%**

There is a more rapid growth in both younger and older age groups, as compared to the average figure for the whole Hong Kong. According to HA's service utilisation data, the relative risk of an elderly person being hospitalised is about four times that of a non-elderly person. It is observed that around 50% of all hospital bed days were occupied by patients older than 65 of age and more than 75% of the elders were suffering from one or more chronic conditions. The rapidly ageing population in Tuen Mun and Yuen Long is going to pose significant pressure on the healthcare system in NTWC. On the other hand, future service development should also consider the needs of the growing paediatric population in both districts.

7. *"Projections of Population Distribution 2015-2024" by Planning Department (2015)*

At the moment, Yuen Long is having a higher population among the two districts served by the NTWC. New town development projects such as the Hung Shui Kiu New Development Area and the development plan in Yuen Long South proposed by the Government would bring additional population to Yuen Long[8]. The geographical distribution of the healthcare service should be planned according to the anticipated change in the age structure and distribution of population between Tuen Mun and Yuen Long.

SERVICE GAPS IN MEETING THE HEALTHCARE NEEDS OF LOCAL POPULATION

Due to historical development, hospitals in NTWC were developed to take up different roles in the cluster-based organisation of various services. With the latest growth in the local population around Yuen Long area, gaps were identified in terms of availability of healthcare services to residents in the area.

For example, emergency paediatric and gynaecology services, clinical oncology and 24-hour emergency surgical operation services were only available at TMH. In 2014-15, there were around 11,000 patient transfers from the A&E department of POH to TMH. Upon further analysis, patients were transferred because many of them required the above-mentioned services, which were not available round-the-clock at POH. While standard treatment protocols are available in NTWC to support A&E departments and guide the safe transfer of patients between the hospitals, the arrangement was suboptimal for patients living in different districts covered by the Cluster.

Considerations are also given to the service utilisation pattern by the patients of NTWC. There is no private hospital in Tuen Mun and Yuen Long and local residents of NTWC rely heavily on public healthcare services. It is observed that around 90% of in-patient and ambulatory services utilised by the residents in Tuen Mun and Yuen Long were provided by NTWC. Among the different clusters in HA, NTWC is having the highest proportion of in-patient discharge episodes utilised by patients living inside its catchment districts[9].

SERVICE ORGANISATION AND MODELS OF CARE

The Surgical Outcomes Monitoring and Improvement Programme (SOMIP) of the HA, commenced in 2008, is a quality improvement programme set up to monitor surgical outcomes and identify improvement opportunities in public hospitals. TMH has been an outlier in the past few years. There is a need to review the models of care and service organisation so that improvement strategies can be formulated to ensure the quality of the surgical services provided to the local community.

8. *Hung Shui Kiu new development area planning and engineering study information digest. Planning Department and Civil Engineering and Development Department, HKSAR. Sep 2016*
9. *Table 3, Annex 3 of Report of the steering committee on review of Hospital Authority, FHB(2015)*

Advances in medical technology allow more and more clinical services to be delivered safely in a day care setting, without needing the patients to be admitted to the hospital overnight. Efficient ambulatory care services are usually organised in a patient-centred manner. Patients can benefit from reduced risk associated with hospitalisation such as hospital acquired infection. It is hoped that the ambulatory care model can be adopted more widely in NTWC.

With the increasing prevalence of chronic diseases and longevity, patients in local community are expecting high level of integration and coordination between hospital services and community services. In the current disease management model, there is suboptimal synergy between in-patient services, community services (non-psychiatric), namely Community Nursing Service (CNS) and Community Geriatric Assessment Services (CGAS), and primary care services delivered through GOPC and CHC. NTWC will need to review the service organisation and models of care to adopt an integrated approach to support patients, especially the elderly, in the community.

Yuen Long and Tuen Mun ranked 4th and 6th in terms of the number of elderly residents living in private Residential Care Homes for the Elderly (RCHEs) among the 18 districts.[10] The concentration of elderly living in the RCHEs poses a significant challenge to the medical services in NTWC. In 2015, about 30% and 16% of the medical in-patient admissions of POH and TMH respectively are from elderly homes. It is anticipated that a large residential care home for elderly, with more than 1,400 places, will be established at Lam Tei region of Tuen Mun as early as 2019.[11] It is an opportunity for HA to develop a new medico-social collaboration model for patients living in the RCHEs.

MAJOR INFRASTRUCTURE DEVELOPMENT NEAR NTWC

As part of the Hong Kong-Zhuhai-Macao Bridge (HZMB) related Hong Kong Projects[12], Tuen Mun – Chek Lap Kok Link (TM-CLKL) will provide a strategic road link between North West New Territories, North Lantau, the HZMB Hong Kong Boundary Crossing Facilities and the Hong Kong International Airport (HKIA) at Chek Lap Kok. Upon completion in around 2018, there will be a significant reduction in travelling distance between North West New Territories and Tung Chung / HKIA. NTWC is anticipating the implication of this new development as an opportunity to review its healthcare services.

SUMMARY

NTWC faces great challenges in meeting the healthcare needs of the local community, but there are also plenty potential development opportunities. With the engagement of staff, the Cluster will review the existing service provision and introduce new ideas to meet the challenges ahead. The formulation of this CSP offers an opportunity for members to propose new service models to address the issues of escalating service demand, changing pattern of diseases as well as the demand for improvement in the quality of care.

10. LCQ20: Statistics about private residential care homes for the elderly (http://www.info.gov.hk/gia/general/201401/08/P201401080393.htm)
11. Pok Oi Hospital Board of Director website (http://www.pokoi.org.hk/en/chairman.aspx)
12. Hong Kong-Zhuhai-Macao Bridge related Hong Kong Projects, Highways Department (Last update: 2016)

Strategic Framework

Nam Sang Wai, Yuen Long / 元朗南生圍

STRATEGIES

In response to the key challenges faced by NTWC and reflecting on the strengths of the Cluster, colleagues in NTWC have drawn up a set of strategies in the formulation of this CSP. They were identified as the essential elements in all the clinical service development of the Cluster in future.

The NTWC CSP will set out strategies to ensure that residents in Tuen Mun and Yuen Long districts have equal and timely access to quality medical care through the establishment of an integrated healthcare network. With the above goal in mind, 14 clinical workgroups (CWGs) were formed and deliberated on improvement proposals and clinical service models covering various service areas (**Appendix 4**). They also illustrate the vision of the staff and stakeholders on future models of care that focus on accessibility, quality and safety and patient outcome improvement.

Throughout the staff consultation process, colleagues from all disciplines and specialties contributed to the formulation of clinical proposals, which adhere to the following strategies.

1. **Foster a culture of multi-disciplinary collaboration** to deliver healthcare services that can better serve the escalating and complex healthcare needs of the local community. Multi-disciplinary care recognises the values of expertise and perspectives of different healthcare professionals in the provision of patient-centred care. In view of the ageing population, collaboration between geriatricians and various specialties (medicine, surgery, orthopaedics, etc.) is considered crucial in the care of elderly patients. Besides, the rapid development in medical technology, for example, cancer therapy necessitates the involvement of different specialties and disciplines in the care process. The design of the healthcare system should also facilitate input from medical, nursing, AH specialists whenever necessary.

2. **Adhere to the principle "localise where possible, centralise only when necessary"** and ensure appropriate clinical services are available in all the districts covered by NTWC. In view of the large geographical area covered by NTWC, most secondary care services for common conditions, especially for the group of patients who are not able to travel long distances, will be provided locally. For example, chronic disease management for the elderly population, post-acute illness rehabilitation and emergency surgical services should be available in both Tuen Mun and Yuen Long. On the other hand, those services that require advanced technology and specialised clinical expertise, for example, neurosurgical services and acute major trauma care, will be concentrated to ensure the quality of service for a critical mass of cases.

3. **Integrate services across the continuum of care** in order to provide seamless care to the growing number of patients in the Cluster. In addition, the demand for chronic disease management is also increasing with the ageing population. Integrated and comprehensive healthcare services will be essential to manage the growing demand. This system integration would facilitate smooth transition of patients between different levels of care, thus relieving the problem of avoidable hospitalisation and reliance on in-patient services. Seamless integration between hospital, out-patient and community healthcare services shall allow patients to receive appropriate care at the most suitable setting.

4. **Acknowledge and strengthen the flagship services in NTWC** by enhancing the service profiles of its healthcare facilities, riding on their existing strengths, for better serving its population. In the consultation process, a number of outstanding services were identified in NTWC, in terms of service organisation and the provision of patient-centred care. Community mental health and forensic psychiatric services are examples of these services.

These strategies were developed from the aspirations of the staff to improve the healthcare services in NTWC. Collectively, these form the cornerstones of service development recommendations outlined in the subsequent chapters.

Clinical Service Programmes

Mai Po, Yuen Long / 元朗米埔

In the consultation process of the CSP, colleagues in NTWC contributed to the formulation of clinical strategies and service development directions for different clinical service areas for the Cluster. 14 multi-disciplinary and multi-specialty CWGs were formed by professionals from hospitals within NTWC and were commissioned to propose collaborative models in their respective service area to achieve a cluster-based service provision for the residents in Tuen Mun and Yuen Long . Together with the detailed discussion with clinical departments and Chief of Services (COS), the recommended models of care and implementation enablers are outlined in this chapter.

Based on the strategic framework of this CSP, the clinical service programmes aim at addressing the challenges facing the NTWC, with particular attention on the roles and functions of the NTWC hospitals. Besides the **CWG reports**, the future clinical service programme for **obstetrics and gynaecology (O&G)** is also included in this chapter.

The CWGs are listed below and memberships of each CWG are listed in **Appendix 4**.

1. Chronic disease management
2. Care for the Elderly
3. Mental health services
4. Cancer services
5. Peri-operative services
6. Emergency surgical services
7. Musculoskeletal services
8. Ambulatory care services
9. Cardiac services
10. Neuroscience services
11. Gastrointestinal services
12. Respiratory diseases services
13. Paediatric services
14. Training

CHRONIC DISEASE MANAGEMENT

Chair / Co-chair

Dr T W AU YEUNG	Service Director (Primary & Community Healthcare), NTWC / Consultant (Medicine & Geriatrics), POH
Dr M L CHAN	Associate Consultant (Family Medicine & Primary Healthcare), Tin Shui Wai Health Centre

In the published literature, there are many different definitions of chronic disease and in the context of this CSP, chronic diseases are defined as the conditions that require ongoing adjustments by the affected person and necessitate regular interactions with the healthcare system. The service models below describe the integration of existing service delivery systems and emphasise on the role delineation of different parties in terms of chronic disease management. By improving the service coordination for chronic disease management in NTWC, there will be a major impact on the overall population health and alleviating the burden of ageing population.

RECOMMENDED MODEL OF CARE

The CWG proposes the following action according to the different components in chronic care model that are considered to be important determinants for clinical outcomes associated with chronic disease management[13].

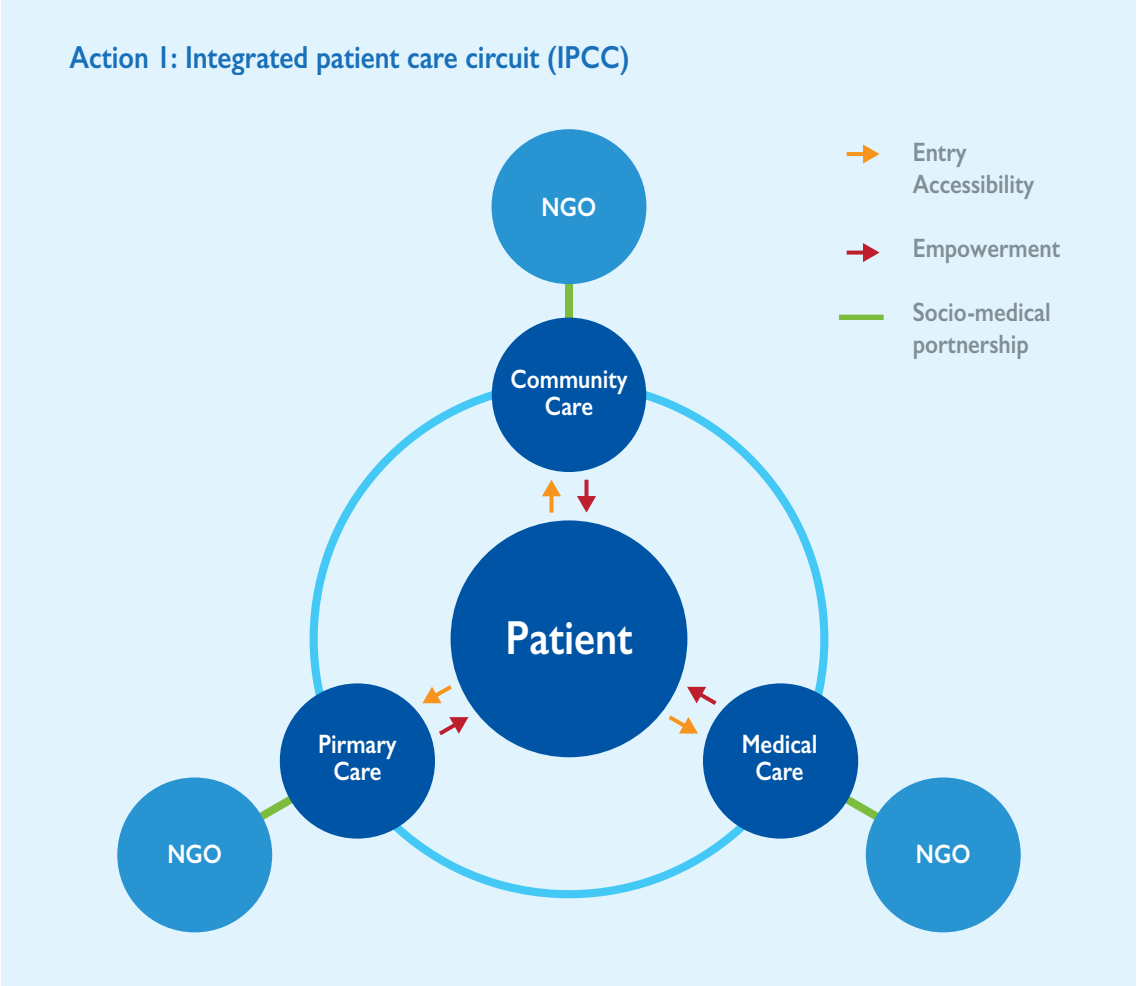
Design of health system and coordination in care process

At the moment, hospitals, primary care clinics and community out-reach teams in NTWC are managing patients with chronic diseases in their own arena. Through different discharge support programmes, patients are starting to receive some continuous support from hospital care through to community care. The CWG recommends to revise the hospital focused unidirectional patient pathway and to organise the components of healthcare services into an Integrated Patient Care Circuit (IPCC) (Figure 4). Patients with chronic disease will be able to enter or exit the healthcare system at different contact points and clinical protocols will allow patients to move between different care settings according to their needs in chronic disease management.

13. *Wagner, Edward H., et al. "Improving chronic illness care: translating evidence into action." Health affairs 20.6 (2001): 64-78. & Wagner, Edward H., et al. "A survey of leading chronic disease management programmes: are they consistent with the literature?" Managed care quarterly 7 (1999): 56-66.*

Primary care service is an essential part in the long-term management of most chronic illnesses. While the current GOPCs are overwhelmed by the demand in episodic illnesses, a certain proportion of service capacity should be reserved for chronic disease management. The well-equipped CHC in NTWC is an ideal place for the provision of multi-disciplinary chronic care programmes, ranging from medical consultation, nurse-led clinics, to patient empowerment activities. The CWG recommends that such services should be made available in both Tuen Mun and Yuen Long.

Figure 4



A shared care model is recommended to allow the shared care of chronic illness between hospital-based specialists and primary care professionals. Standard protocol should allow multi-directional flow of patients within the IPCC. The shared care model is also included in the strategies proposed by the CWGs on Musculoskeletal Services, Cancer Services and Cardiac Services.

Patients with chronic disease are prone to fluctuation in clinical conditions and sometimes may require urgent medical support. A&E department used to be the most common destination for them to seek help. With enhanced system integration, unnecessary A&E attendance and subsequent hospital admission can be avoided if other rapid response options are available to patients such as CNS / community geriatrics visit, early GOPC visit or direct referral to ambulatory care unit (details described in the CWG report on Ambulatory Care Services). With better support to the A&E departments, many medical conditions can be managed without patients being admitted to in-patient units.

If hospital admission is deemed necessary, a planned admission to targeted specialty team will enhance the efficiency of care delivery. The care process can be facilitated by close collaboration between hospitals, primary care service sector and community out-reach teams.

Extension of Risk Assessment and Management Programme and Patient Empowerment

With reference to the current multi-disciplinary Risk Assessment and Management Programme (RAMP) for patients with diabetes and hypertension, the Cluster can explore to develop similar programmes for other chronic diseases such as chronic obstructive pulmonary disease, heart failure, etc. to modify the long-term outcome of those chronic conditions by systematic risk assessment and empowering patients with the skills and knowledge on self-management of their chronic illnesses.

Patient Resource Centres (PRC) should be encouraged to take the leading role in coordinating stakeholders, such as patients, patients' family and carers, patient support groups, volunteer services and NGOs, to participate in patient care circuit. Patient empowerment and self-care are the important foundations in chronic disease management and are best promulgated close to the community level. Apart from the PRCs in the hospital premises, community nurse stations located in public housing estates and NGOs are also suitable portals to promulgate patient empowerment messages.

Clinical information system

The multi-disciplinary involvement in the patient care circuit will demand an efficient and timely clinical information flow. Colleagues working in different care settings should be able to access the most updated patient information through a common information technology platform. By tracking the patient progress on mobile devices, community out-reach team will be able to communicate on the treatment outcome effectively with patients and other providers within the patient care circuit.

Establish clinical ownership and leadership in community out-reach services

The established CGAS and integrated discharge support programme illustrate a prototype for integration of inter-disciplinary community services with hospitalist-led clinical services. However, currently both CNS and community AH teams lack the connection and support from hospital teams. The establishment of a hospitalist-led model for these two teams similar to that in CGAS can foster the medical support and ownership, and connect the two currently stand alone services robustly back within the IPCC. In the long run, CNS can adopt a case manager role to take care of high-risk patients in the community. The co-location of CNS with NGOs and within the public housing estate offers an opportunity for the growth of socio-medical collaboration and patient empowerment programme. In addition, the co-location of CNS and primary care services within CHC or GOPC can strengthen the medical support for community out-reach teams.

IMPLEMENTATION ENABLERS

Development of clinical management protocol and patient pathway

The proposed IPCC needs to be established through concerted effort among stakeholders involved. Different teams in hospitals, GOPCs and community out-reach service need to iron out the details in shared care model, and common protocols will be required to guide the patient flow to enable the integration between the different systems.

Training and promulgation within the Cluster

The proposed service model involves a paradigm shift on how medical services are to be delivered. Thus it is important to identify partners in every discipline and promulgate the concept of system integration to patients and staff.

Facility planning

Primary care services and community-based chronic disease management programmes should adopt a "localised" planning approach and should be available in both Yuen Long and Tuen Mun. The CWG proposes that TSWH and POH will form a service network by using Tin Shui Wai (Tin Yip Road) CHC in serving chronic disease patients from Yuen Long. Cluster should plan for a purpose-built CHC in Tuen Mun district to support the primary care and community-based needs.

CARE FOR THE ELDERLY

Chair / Co-chair

Dr C K MOK	Cluster Coordinator (Medicine & Geriatrics), NTWC / Chief of Service (Medicine & Geriatrics), TMH
Dr T W AU YEUNG	Service Director (Primary & Community Healthcare), NTWC / Consultant (Medicine & Geriatrics), POH

Ageing population is one of the most important challenges faced by NTWC. The CWG develops a set of recommendations for elderly services of NTWC, based on the following four principles:

1. Elderly patients should have easily accessible healthcare services across different levels of care setting, from primary care level through to tertiary hospital services.
2. Healthcare services, from hospital environment to workflow arrangement, should be designed to meet the needs of the elderly patients.
3. Elderly healthcare services should move towards community-based model and avoid unnecessary hospitalisation.
4. Healthcare providers in HA shall collaborate with community partners to enhance the continuity of care.

RECOMMENDED MODEL OF CARE

Facilitated workflow for in-patient care

For elderly patients presented to A&E departments in NTWC, geriatrics team would provide input to the management options at the hospital's front door. For suitable clinical conditions, patients can be offered with treatment options other than hospitalisation, for example, being followed up by CGAS team, receiving treatments at ambulatory care centre or services provided by other community resources. For patients requiring in-patient treatment, they can be admitted directly under the suitable sub-specialty team. Specific programmes such as end-of-life programmes shall also channel patients to the most appropriate care setting.

The CWG recommends developing standardised nursing assessment for all elderly patients admitted to the hospital. Using a common information technology platform, a predictive model can be constructed to facilitate discharge planning and post-discharge support by suitable parties including geriatrics team, nursing service department and AH professionals.

In order to support the management of elderly patients under the care of other clinical departments, collaboration will be enhanced according to the patients' needs. For example, peri-operative management will be enhanced for patients with geriatric fractures in orthopaedic ward, surgical patients requiring peri-operative care, as well as elderly patients under psychiatric care. Collaboration with oncology department needs to be strengthened to optimise treatment efficacy, although the detailed model will need to be further explored.

Enhancement in community-based programmes

The CGAS team is currently providing outreach medical support to patients living in the RCHE. In order to support medical needs of residents in the new 1400-bed old age home in Lam Tei, the CWG recommends that the role of CGAS team should be enhanced, and more comprehensive medical support can be provided at the RCHE. The medical team from NTWC will collaborate with the in-house staff of the RCHE to enable the treatment of sick patients at the care home. A "sick bay" is proposed to be established in the care home to manage acute medical conditions or receive patients discharged from the hospital. An expert panel will work with the management board of the care home to establish the collaborative care model.

The current Integrated Discharge Support Programme should be enhanced both in terms of breadth (cover more cases across various departments) and depth (increase the support duration according to patients' needs). The satellite community nursing stations at the CHC and NGOs are recommended to strengthen the medico-social collaboration to meet the needs of elderly in the community. With standardisation and alignment of services provided in the Geriatric Day Hospital (GDH) in the Cluster, it will function as a resource hub and coordination centre to provide necessary day services in medical, nursing and rehabilitation support to the elderly in the community.

Enhancement in medico-social collaboration

There are different options to enhance the connection between medical and social care for elderly population. Direct interaction and co-care model will be exemplified by the enhanced CGAS service in Lam Tei old age home project. Volunteer development for the elderly and their care-givers can be directed by the hospital PRC. Regular exchange of ideas and sharing meetings between hospitals, RCHEs and NGOs in the community is also recommended.

IMPLEMENTATION ENABLERS

Training of healthcare providers

Through structural training and job rotation, nurses in NTWC could be equipped with essential skills and knowledge in taking care of elderly patients. The relevant knowledge should not be limited to the geriatric units, but can also be disseminated to surgical and orthopaedic departments. As a result, every in-patient unit will have nursing staff who are able to liaise with available resources (e.g. CGAS team, Integrated Discharge Support Programme, GDH, etc.) to support elderly patients, both in the hospital or community.

To facilitate the input to different clinical areas and specialties, geriatricians need to develop the relevant clinical expertise in various specialties (e.g. surgical, orthopaedic, oncology, etc.).

Clinical leadership and governance in community-based services

The CWG recommends that a unified clinical leadership and governance should be adopted to lead the development of the medical services for the elderly. Common care protocols, professional development pathway and manpower planning will be organised under the same umbrella. A unified electronic communication platform will be essential to facilitate care transition between hospitals and the community.

Regarding the community-based nursing services, the integration of CGAS and CNS is considered necessary to facilitate their roles to support the medical needs of patients in the community. The clinical leadership from geriatric team is considered to be crucial to the development.

MENTAL HEALTH SERVICES

Chair / Co-chair

Dr Eric CHEUNG	Hospital Chief Executive, CPH & SLH / Consultant (General Adult Psychiatry), CPH
Ms Jolene MUI	General Manager (Nursing), CPH & SLH

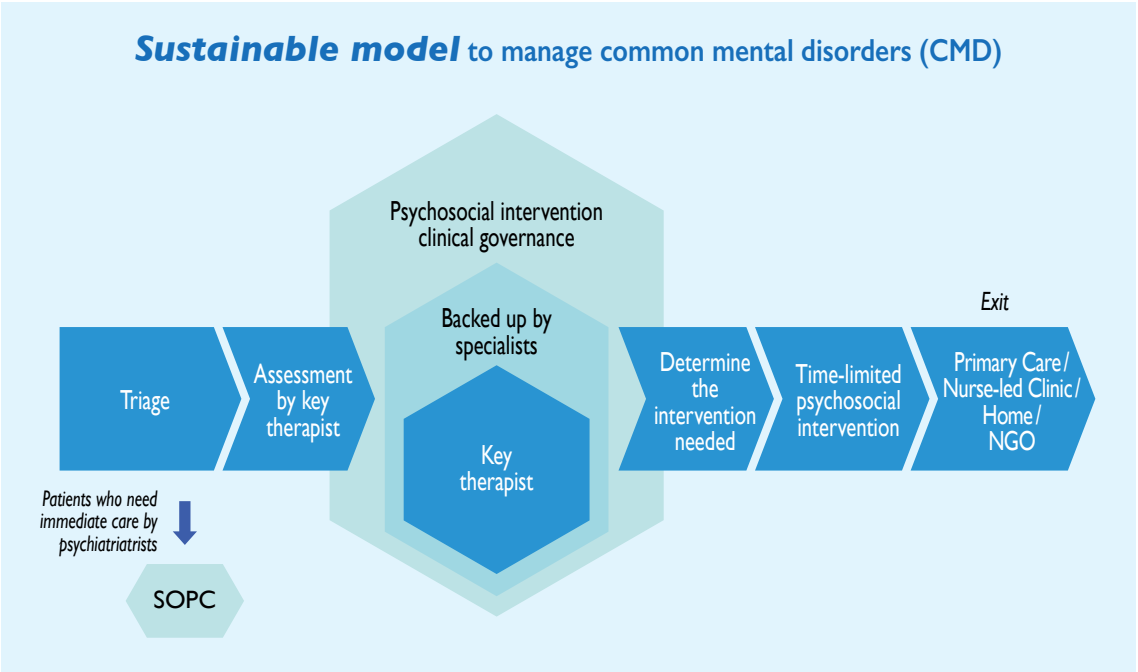
NTWC will adopt a holistic and patient-centred mental health service approach that cuts across different levels of care. The model consists of three key components that aim to: i) develop a sustainable model to serve patients with common mental disorders; ii) build a cluster-based comprehensive consultation-liaison service that addresses the mental and physical health needs of patients attending hospitals in NTWC; and iii) enhance the community mental health services to support patients with severe mental illnesses across all levels of care.

RECOMMENDED MODEL OF CARE

Management of common mental disorders

NTWC will adopt an integrated, multi-disciplinary, patient-centred service model to manage patients with common mental disorders (CMD), examples of which include mild depression, anxiety disorder, insomnia, etc. The proposed model emphasises on timely and appropriate interventions, collaboration with primary care and community partners before patients entering the specialists care. Exit mechanism will be an important part of the service model. The conceptual framework is presented in the diagram below:

Figure 5



The model aims to identify suitable patients with CMD to nursing and AH professionals for receiving timely and appropriate psychological interventions. Key therapists (nurses and AH professionals) will play an important role in the assessment and provision of interventions. Psychiatrists will act as the medical backup and leaders in the multi-disciplinary team to formulate appropriate intervention packages for these patients. After a time-limited and goal-directed course of treatment, there will be different exit pathways, such as primary care and continuous support by NGOs depending on the clinical need of the patients.

Cluster-based consultation – liaison services

An integrated mental and physical healthcare service model is proposed to develop comprehensive psychiatric liaison services to address the expanding needs in different care settings in the Cluster. Multi-disciplinary teams will be established to address the mental health service needs for patients who are also receiving general medical care in both in-patient and out-patient settings. Besides the existing consultation-liaison services in A&E department, collaboration with appropriate specialties such as oncology, pain medicine, neurology and rheumatology will also be developed to address the mental health needs for patients with particular health situations.

On the other hand, general medical consultation support to patients in the psychiatric in-patient services should also be enhanced. Timely management of their physical problems will reduce unnecessary patient transfer between hospitals in NTWC.

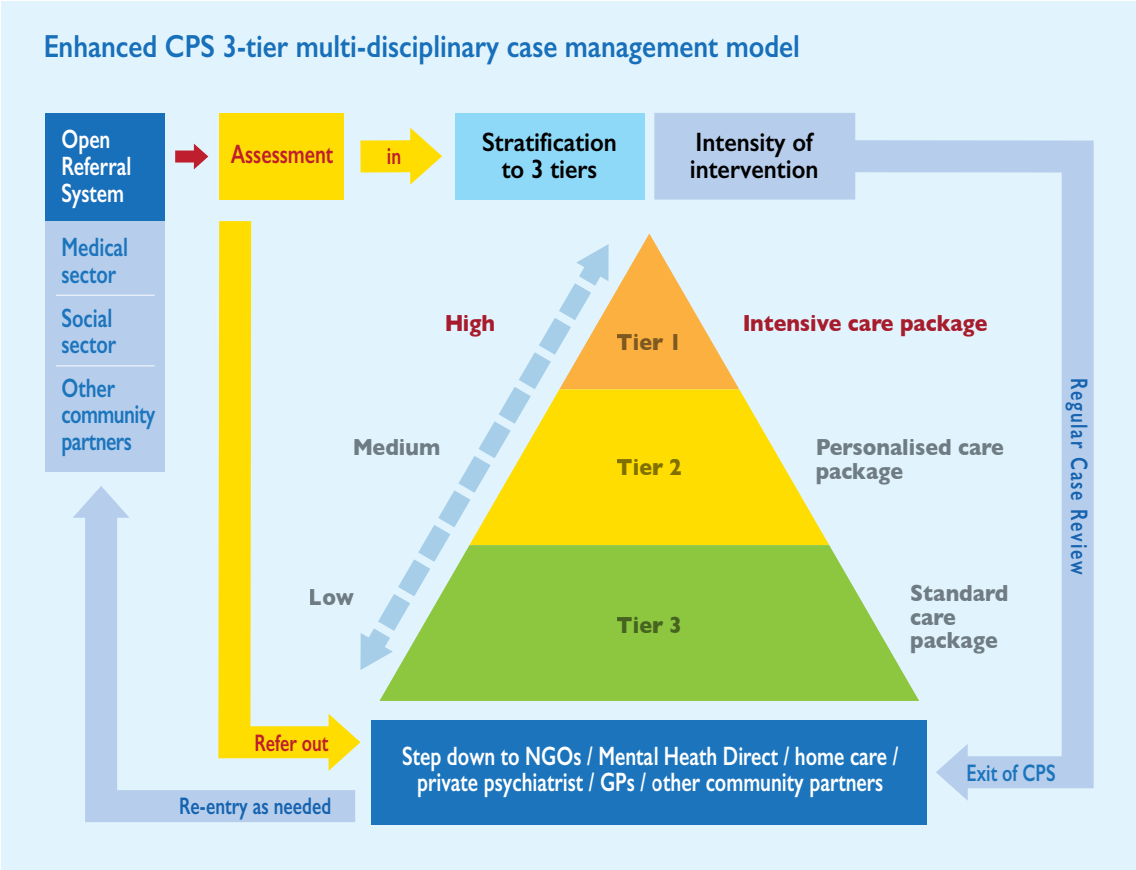
Community psychiatric service for severe mental illnesses

NTWC will continue to develop and enhance the integrated community psychiatric service (CPS) that delivers community-based treatments and facilitates community re-integration of patients with severe mental illnesses. It is based on a recovery-orientated service model that integrates multiple facets of care, with comprehensive triage and review system to ensure appropriate service delivery. The conceptual framework of the service model is presented below:

Entry and exit across different levels of care

The CPS adopts an open referral system where patients can be referred from both within HA, such as the A&E department, GOPCs, SOPCs or in-patient services, and outside HA, such as primary care physicians, community partners, family members or other government departments (e.g. police, Social Welfare Department, Housing Authority, etc). Based on the standardised risks assessment, patients will be treated at a suitable setting with different care packages. A case manager will work with the patients and be supported by the multi-disciplinary team in formulating care plans to achieve community re-integration as the treatment goal. The team will also collaborate with community partners and NGOs to ensure appropriate support is available to the patients in the community.

Figure 6



Risks stratification and matching of interventions

The case managers will employ standardised assessment tools to stratify patients into tiers according to the complexity of the disease condition. This process allows identification of healthcare needs and evidence-based treatment packages, such as physical health interventions, medication management and family interventions, to be provided. The case managers will work closely with doctors, nurses, social workers, clinical psychologists, occupational therapists and other AH professionals to provide personalised care.

Quality assurance

To ensure accountability, quality of care, appropriate manpower distribution and resource utilisation, standardised tools for measuring service delivery and patient outcomes will be implemented. Fidelity assessment will also be implemented to ensure that the service conforms to its stated aims and model. This will include assessments and audits of response time, caseload, number and duration of visits, and quantifiable indices of care plans and packages. Tools aimed at measuring service outcome, such as medication adherence, illness control, and social and functional recovery, will be developed to govern service development.

IMPLEMENTATION ENABLERS

Establish structured assessment tools and treatment protocol

The success of the above care model shall depend on a common treatment protocol, which covers different aspects of the patient journey from diagnosis, treatment and long-term follow up. Treatment protocol will be developed for the management of CMD, as well as for the CPS. Multi-disciplinary input will be required to enhance patient recovery and functional enhancement. Close liaison between hospitals, primary care team and community partners is necessary for smooth transition of patients between different levels of care according to their clinical conditions.

Training of healthcare workers

In order to support the multi-disciplinary team in other clinical services such as psycho-oncology and pain medicine, targeted training for staff in the mental health team is required.

CANCER SERVICES

Chair / Co-chair

Dr C S WONG	Cluster Coordinator (Quality & Safety), NTWC / Consultant (Oncology), TMH
Dr C C CHEUNG	Consultant (Surgery), TMH

A comprehensive cancer programme in NTWC should provide timely, integrated, personalised and patient centred services. Apart from improving survival and quality of life for patients, the advancement in cancer treatment is slowly changing malignant diseases into chronic conditions. Many patients recover from cancers and require prolonged follow-up in the healthcare system. In order to provide comprehensive cancer services, different levels of clinical services will be needed along the patient journey from primary care (disease awareness and early detection), to specialist care (diagnosis and treatment plan) and long-term care (cancer survivorship and palliative care for the less fortunate ones).

RECOMMENDED MODEL OF CARE

Multi-disciplinary team approach

NTWC will adopt a multi-disciplinary approach in caring for patients suffering from different types of cancers. Multi-disciplinary team comprising healthcare professionals from different specialties will provide inputs to patient care and streamline the process in diagnosis, treatment and post-intervention management. The CWG proposes to revisit the composition of specialists in the current multi-disciplinary teams according to different purposes. Colorectal, breast, hepato-biliary and lung cancers are the top four priorities for adopting this approach, given their high disease prevalence among different cancers.

Cancer care coordinator

Cancer care coordinator (CCC) will play an important role in coordinating patient care in cancer services. The CWG recommends that the case management approach should be adopted to cover most major cancers. CCC will assist the patient in navigating through the system and ensure treatment protocols are followed. Besides, the CCC can accept fast track referral from primary care, deliver patient education and engage patients in the disease management process. In future, the possibility of direct endoscopy booking by CCC will be explored.

Survivorship support and disease surveillance

The CWG proposes that a shared care model should be adopted for the long-term follow-up of patients who have recovered from cancers. Based on a risk-stratification approach, primary care providers, including family medicine clinics, community doctors and NGOs will be invited for continuing the care for patients with low-risk of recurrence or complication after cancer treatment. AH professionals will also be engaged to help patients regarding management of long-term complications. Standardised system will be set up to allow a more efficient patient flow between hospital and primary care setting, especially when there are changes in clinical conditions and different levels of care are needed.

The service model described serves as an overall framework for the development of cancer services in NTWC. Disease specific implementation recommendations and planning can also be found in subsequent sections, for example, CWG reports on GI Services, Neurosciences and Respiratory Diseases Services.

IMPLEMENTATION ENABLERS

Facility design

The collaborative multi-disciplinary service needs to be supported by suitable facility design where one-stop service for patients is offered. The CWG recommends establishing a comprehensive oncology centre at TMH and adopting an institution model where oncology day services, radiotherapy facility including linear accelerators, brachytherapy suite, and day chemotherapy ward can be co-located in the hospital site.

An expanded Pathology Block will be required to cope with the advancement in technology, especially in the diagnosis and the treatment process. A large floor plate will be required to cope with the increasing demand in pathology services. It is expected that with the development of personalised medicine and molecular technology, there will be more interaction between clinical departments and the pathology services of the hospital.

Radiology service is an essential part in the diagnosis and assessment of patients with malignant diseases. Additional radiological equipment will be planned according to the anticipated growth in service demand. The availability and access to PET / CT services for patients in NTWC will be important to guide the management of those conditions.

Role delineation of hospitals in NTWC regarding cancer services

Clear role delineation in service provision between hospitals in NTWC will allow the optimisation of resources utilisation and accessibility to healthcare services by the local community. TMH will remain as the main platform of most multi-disciplinary teams. The hospital will continue to handle high-risk procedures and provide anatomical pathology service, together with the integrated palliative care and pain management. New brachytherapy suite and expansion of linear accelerators should be considered at TMH upon increasing service demand. In order to improve the access to services for patients living in Yuen Long, additional consultation services of general oncology and palliative care services are recommended at POH, while satellite centre for chemotherapy and palliative care services can be considered at TSWH.

Cluster-based governance structure

The role of Cluster Cancer Service Committee will be augmented to better coordinate the development of cancer services, including

1. planning of manpower and training
2. assessing emerging new technologies
3. developing and coordinating CCC services
4. overseeing the development of management guidelines and protocols for common cancers
5. leading clinical audits for cluster cancer services
6. coordinating information technology support for all multi-disciplinary teams interface

PERI-OPERATIVE SERVICES

Chair / Co-chair

Dr C P CHENG	Consultant (Anaesthesia & Intensive Care), TMH
Dr S K LEUNG	Cluster Coordinator (Quality and Safety), NTWC / Deputy Chief of Service (Surgery), TMH & POH

Care provision to patients undergoing operation has been evolving in recent decades. Patient journey starts immediately after the decision for operation is made. In accordance with published international studies[14], the surgical mortality has drawn much attention towards the peri-operative management of high-risk patients. Peri-operative care models for individual patient groups should be set out to balance the safety, effectiveness and efficiency of any proposed surgery. The development of peri-operative services should follow the commitment to the delivery of quality healthcare and improve patient outcomes. This has set forth the service model for peri-operative services in NTWC.[15]

In 2015, around 12,000 operations (elective: 5,600; emergency: 6,400) were performed at TMH, among which 33% of the patients were aged over 65, 15% belonged to the high-risk group and 46% were classified as major/ ultra-major in magnitude. These signify the need to introduce a peri-operative service model so as to cope with: i) an expanding patient volume; and ii) an increasing demand from the high-risk patients and operations.

RECOMMENDED MODEL OF CARE

The service model is designed to follow the clinical pathways of individual patient groups, under which patients are divided into high-risk and low-risk groups, who undergo either elective or emergency operations. The patient journey begins with surgical triage, peri-operative care in a patient-centred multi-disciplinary team manner, followed by enhanced post-operative surveillance that serves as a safety net to provide in-time attentive care at an appropriate care setting.

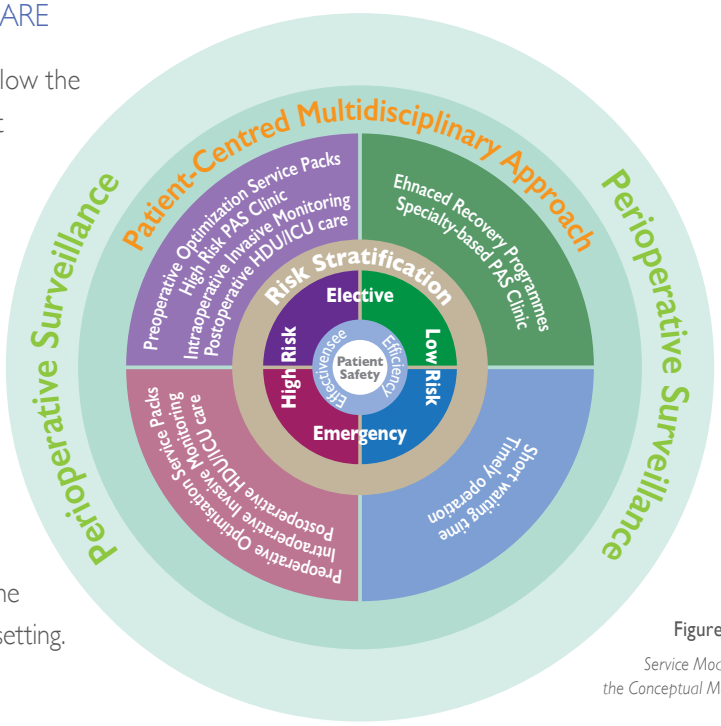


Figure 7

Service Model: the Conceptual Map

14. *International Surgical Outcomes Study (ISOS), British Journal of Anaesthesia 2016 & European Surgical Outcomes Study (EuSOS), Lancet 2012; 380:1059-65*
15. *Perioperative Medicine- the Pathway to Better Surgical Care, Royal College of anaesthetists 2015 & Knowing the Risk: A review of the peri-operative care of surgical patients, A report by the National Confidential Enquiry into Patient Outcome and Death 2011*

Peri-operative team

Peri-operative team comprising anaesthetists, surgeons, intensivists, physicians, physiotherapists, dieticians and nurse specialists in peri-operative medicine will be established to facilitate the multi-disciplinary services necessary for patients before and after surgery. The team will be responsible for the clinical care according to the patients' peri-operative risk profile. A risk prediction tool, e.g. Surgical Outcome Risk Tool[16], will be used to stratify patients into high or low risk groups.

The high risk elective patient group

For the management of patients considered having high risk for elective surgery, they will be assessed in a specialist-led Pre-operative Anaesthetic Service (PAS) Clinic, where protocol driven peri-operative optimisation programme is offered. A series of prehabilitation[17] services delivered in a multi-disciplinary manner will be performed to optimise the patient's functional capacity before surgery. Dedicated high dependency unit (HDU) beds will be available for patients, of whom pre-operative optimisation needs to be done under in-patient setting. Under the programme, patients will be frequently reviewed by nursing experts in peri-operative medicine. The endpoints for pre-operative optimisation will be protocol-driven according to the surgical and patient subgroups. Regular multi-disciplinary meetings will be in place to provide channels to discuss the high-risk cases and review the standard of care regularly.

During the operation, anaesthesia will be delivered by experienced team according to case complexity. Intra-operative care and practice patterns will be standardised in adherence to evidence-based guidelines. Post-operative care will be managed in HDU or intensive care unit (ICU) according to the clinical condition.

The low risk elective patient group

An efficient clinical pathway to enhance recovery and operation-specific enhanced recovery programmes will be developed for the low risk elective patient group. In case of unanticipated deterioration in the early post-operative period, escalation of care level can be initiated through the nurse-led protocol in surgical wards.

The emergency patient group

The clinical pathway for emergency surgery is time-dependent where timely operation should be the priority. Pre-operative optimisation will be provided as much as time allows, using a multi-disciplinary team approach. Appropriate level of post-operative care in either HDU or ICU will be arranged.

16. *Development and validation of the Surgical Outcome Risk Took (SORT). Protopapa KL, Simpson JC, Smith NCE, Moonesinghe SR. Br J Surg 2014. 101:1774-1783*
17. *Optimization of Surgical Outcomes with Prehabilitation. Daniel Santa Mina et al Applied Physiology Nutrition and Metabolism; May2015*

Post-operative surveillance

In-hospital mortality is closely related to the ability for early recognition and management of post-operative complications (failure to rescue)[18]. Failure to Rescue refers to those preventable hospital deaths after adverse occurrences like post-operative complications. Nurse-led protocol will be developed to enhance surveillance vigilance for patients with unanticipated deterioration in general wards, through which direct pre-operative team consultation can be triggered by ward nurses. Through the coordinated effort of the team, patient with deterioration in clinical condition will be managed in an appropriate setting such as HDU and ICU.

IMPLEMENTATION ENABLERS

Set up a peri-operative team with anaesthetists, surgeons, intensivists, physicians, physiotherapists, dieticians and nurse specialists in peri-operative medicine

The team will be essential to ensure a multi-disciplinary and collaborative approach is adopted in the peri-operative service.

Set up high-risk PAS clinic

Surgical triage enables risk stratification and early identification of high-risk patients where they can undergo a series of prehabilitation programmes through protocol driven optimisation service packages.

IT support and platform for electronic peri-operative anaesthetic documentation

Proper documentation and information flow can be facilitated with the use of electronic peri-operative anesthetic recording systems. Anaesthetic assessment records and previous anaesthetic documents can be easily retrieved via platform e.g. electronic Patient Record (ePR).

HDU beds for pre-operative care and extended recovery care

Appropriate level of care in the pre-operative and early post-operative phases can be achieved by dedicating HDU beds to serve two purposes: i) pre-operative admission for prehabilitation of high risk patients; ii) extended recovery care for at-risk patient groups. On the other hand, all high-risk patients will be admitted to ICU for immediate post-operative care. It is recommended that the location of HDU should be in close proximity with ICU.

Resources for training and education in peri-operative medicine

In order to make the services sustainable, training and education should be provided to medical, nursing and AH personnel specialising in peri-operative medicine. Patients' conditions would be better understood at all stages so that appropriate levels of care could be provided at all times.

18. *Failure to Rescue: Comparing definitions to measure quality of care. Medical care, Silber JH et al. 2007.45(10): P 918-925 and Variation in Hospital Mortality associated with in-patient surgery, Amir A Ghaferi et al, N Eng J Med 2009; 361: 1368-75*

EMERGENCY SURGICAL SERVICES

Chair / Co-chair

Dr H L YIU	Consultant (Surgery), TMH
Dr H L WONG	Consultant (Orthopaedics & Traumatology), TMH

In NTWC, emergency surgical service was first started at TMH. With the increased service demand and population growth in Yuen Long, emergency surgical services has been introduced at POH since 2015. With the opening of A&E department at TSWH, patients requiring emergency surgery may present to the three acute hospitals with A&E department. The CWG makes recommendations on the cluster-based surgical service organisation which aims to provide equal access for emergency surgical services in the districts covered by NTWC.

RECOMMENDED MODEL OF CARE

Single clinical governance and inter-hospital collaboration

In NTWC, the emergency surgical services will be managed under single governance structure to allow flexible deployment of manpower among hospitals to match the service needs. The three acute hospitals will form an integrated service network.

POH and TSWH (spoke) will collectively support the 24-hour emergency surgical services of general specialties for Yuen Long. On the other hand, TMH will serve as the tertiary referral centre (hub) for the comprehensive emergency surgical services including major trauma care. Other sub-specialties like thoracic surgery, neurosurgery, vascular surgery, and burn management will be concentrated at TMH. The network will ensure that the majority of the surgical conditions can be managed locally within Yuen Long or Tuen Mun and avoid unnecessary delay and inter-hospital transfers. Only patients with more complex surgical conditions need to be transferred to the tertiary centre. With the completion of the new OT extension block at TMH, which is equipped with intra-operative radiological facilities, the vascular surgery service will be concentrated at TMH. In connection, there is on-going deliberation within HA regarding the vascular service network arrangement between HA Clusters. The overall service model may evolve according to the outcome of the discussion.

Cluster-based protocol will be used to guide the patient journey and well-defined admission criteria will be applied to divert patients to the most suitable site for managing their conditions. In the process, the emergency medicine ward in each hospital's A&E department in NTWC will support the network by initiating early assessment and investigations according to clinical protocols.

Surgical admission ward

As a long-term strategy, the CWG recommends surgical admission ward to manage patients with emergency surgical condition in a single location in the hospital. Through the A&E department, patients will be admitted to a designated ward and initial management will be led by the on-call surgical team. With appropriate investigations and diagnostic workup, emergency surgery will be arranged afterwards and the patients will be transferred to the surgical ward post-operatively for continuation of care. The model allows the concentration of expertise, especially the nursing team, to manage emergency surgical conditions in an efficient manner and facilitate multi-disciplinary input in the management. Pre-operative assessment, optimisation for those patients with multiple co-morbidities and involvement of ICU team can all be performed in a convenient location.

IMPLEMENTATION ENABLERS

Enhancement of service capacity

To facilitate the proposed service network, the service profile for POH needs to be enhanced to allow the management of emergency surgical conditions at POH. The CWG recommends that there should be i) extension of available time for emergency operations at POH during the day, ii) improvement in inter-department consultation support such as gynaecology, and iii) round-the-clock support for diagnostic imaging as well as interventional radiology at POH. ICU capacity will bereviewed according to the proportion of high-risk surgical patients. With the above support, many of the surgical and orthopaedic emergencies can be managed locally within Yuen Long.

Cluster-based clinical pathways and protocols

Clinical pathways for management of emergency surgical conditions will be established to allow standardised treatment to be offered across the acute hospitals in NTWC. Timely intervention will streamline and improve the quality of clinical care.

Professional development and training

It is always challenging in the management of emergency surgical condition because of the time-critical nature of the illness. Cluster-based training for medical and nursing staff is recommended to enhance the exposure and experience for staff in the care of emergency surgical conditions. This can be done by structured rotation programme among the acute hospitals within the Cluster.

MUSCULOSKELETAL SERVICES

Chair / Co-chair

Dr C Y LAM	Consultant (Orthopaedics & Traumatology), TMH
Dr C C MOK	Consultant (Medicine & Geriatrics), TMH

The major challenge faced by NTWC is the rapidly growing elderly population in the next decade. The service demand for the management of fragility fracture and other types of musculoskeletal (MSK) disorders associated with ageing is expected to rise rapidly. Examples of chronic MSK disorders include inflammatory arthritis, spondylitis, degenerative osteoarthritis and osteoporosis. Two service models are proposed below for the management of geriatric hip fractures and common MSK disorders respectively. The CWG proposes a geriatric-orthopaedic care model for geriatric hip fractures and a comprehensive multi-disciplinary "bone and joint" ambulatory care model to meet the growing demand of MSK disorders.

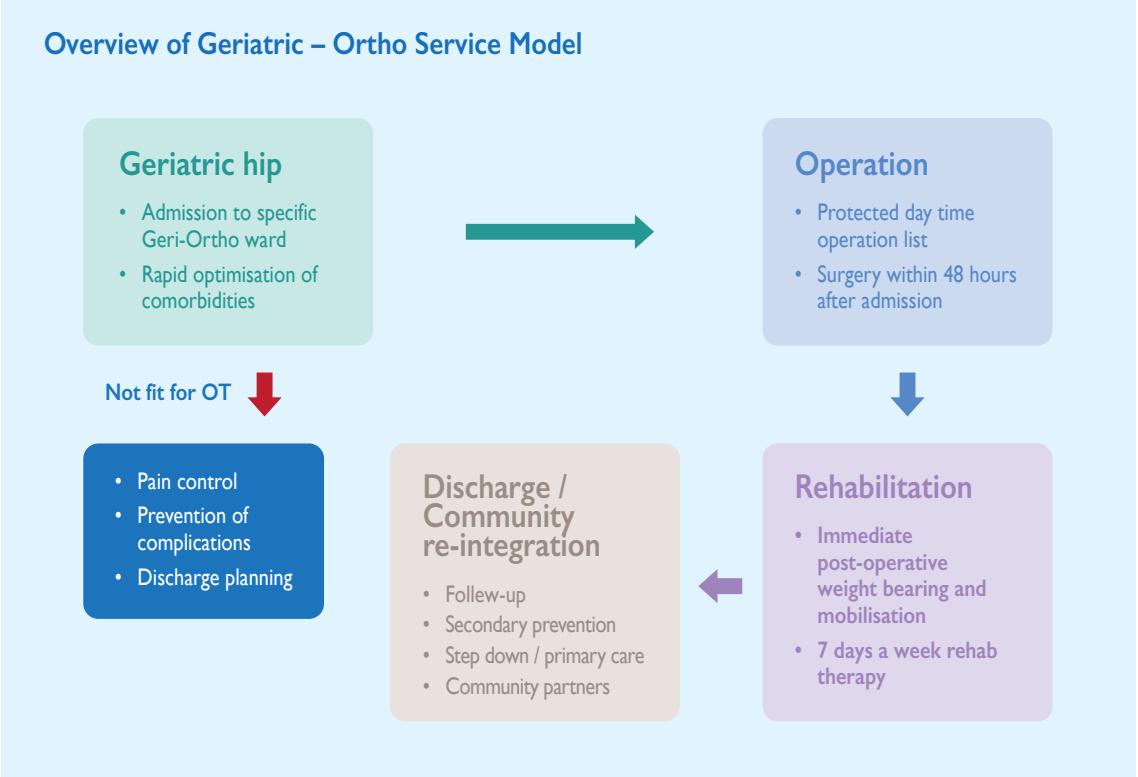
RECOMMENDED MODEL OF CARE

Geriatric-orthopaedic service for geriatric hip fractures (GOFx)

In the proposed model, a clinical pathway will be set up for the management of elderly patients admitted for bony fractures. The management pathway will cover the acute management, rehabilitation through to community re-integration (Figure 8). Hip fracture is used as an example because patients admitted for this condition are usually elderly and commonly suffer from multiple chronic medical conditions.

Patients will be admitted to specific geriatric-orthopaedic wards where they will be assessed early by geriatric team to optimise any medical co-morbidities, if early surgical treatment for the fracture is anticipated. Dedicated OT sessions are recommended to allow early surgery, preferably within 48 hours after admission. Soon after the operation, mobilisation and accelerated rehabilitation will be offered, accompanied by protocol driven post-operative pain management. Service coverage of physiotherapy and occupational therapy will be extended to weekend and public holidays for facilitating early discharge and efficient use of in-patient rehabilitation beds. It is expected the post-discharge support service can be contributed by community partners. Coordinated effort in secondary prevention of future fragility fracture will be included in the long-term follow-up of these patients to prevent future fractures.

Figure 8



Integrated multi-disciplinary bone and joint Ambulatory Day Care Centre

The CWG recommends setting up an Ambulatory Day Care Centre (ADCC) in NTWC to provide a one-stop service for patients with MSK diseases. A multi-disciplinary approach will be adopted in the centre. Patients referred from primary care physicians, private practitioners or A&E department will be attended to in the centre. Protocol-driven triage and assessment can be initiated by trained healthcare personnel, such as nurse specialists. Using standardised protocol and screening tools, patients can be assessed early and suitable investigations can be ordered to identify patients at risk of major pathology. For most other patients with minor MSK complaints, such as self-limiting back pain, neck pain or minor injuries, early intervention can be offered according to the protocol. After the time-limited treatment cycle and relief of symptoms, patients will be followed up at primary care level. The ADCC can also support the patients in the early post-discharge period such as offering day rehabilitation programmes.

The proposed centre will be an ideal place to manage patients in the day care setting. Pain management programmes, MSK ultrasound examination, administration of biological agents and day rehabilitation services can be organised in the ADCC. Common to both programmes mentioned above, multi-disciplinary inputs will be required. The concentration of expertise in the centre shall facilitate inter-disciplinary collaboration.

Development of disease specific programmes

The CWG recommends NTWC to develop multi-disciplinary disease specific programmes to enhance the patient care pathway in MSK diseases management. For example, osteoporosis and fracture prevention programmes, inflammatory arthritis and degenerative joint diseases management programmes are potential items for further consideration.

IMPLEMENTATION ENABLERS

Clinical pathways and manpower training

Cluster-based clinical pathway for management of geriatric fractures will be required to cover the acute management, rehabilitation and community re-integration. Training will be required to equip the multi-disciplinary team including doctors, specialty nurses, physiotherapists, occupational therapists, podiatrists and other healthcare professionals to execute the proposed service model according to protocol.

Facility enablers

In the future design of hospitals and clinical areas, consideration should be given to include elderly friendly features in orthopaedic wards. The new OT Block at TMH will increase the service capacity for elective operation and enable the provision of protected daytime operation list for traumatic fractures, especially for geriatric hip fractures. The ADCC is recommended to be located at the ambulatory care zone of future hospital campus.

Collaboration with community partners

A closer collaboration with community partners such as NGOs, is required to provide the necessary rehabilitation and support services for patients recovering from geriatric fractures and other MSK conditions.

AMBULATORY CARE SERVICES

Chair / Co-chair

Dr C Y WONG	Consultant (Surgery), TMH
Dr C Y YUNG	Consultant (Medicine & Geriatrics), POH

Facing the increasing demand for medical services, there is a need to develop service delivery models that depend less on the physical capacity of hospital beds and in-patient care. With the achievement in minimally invasive surgery and improvement in diagnostics and pharmaceuticals, many surgical procedures and sophisticated medical treatments can be delivered in ambulatory care setting and it is not necessary for patients to stay overnight in hospital. The CWG proposes the service models in ambulatory care services for NTWC should encompass both medical and surgical streams. The aim is to provide accessible, patient-centred, comprehensive and coordinated care to patients in the Cluster.

RECOMMENDED MODEL OF CARE

Reduce unnecessary emergency admission and over-reliance on in-patient services

The CWG recommends that ambulatory services can help to reduce unnecessary admission. In a designated ambulatory care unit, the team can receive patients referred from A&E department and provide fast track assessment, investigation and treatment to the patients who otherwise will be admitted in the hospital in-patient setting. For example, patients presented with pleural effusion can undergo diagnostic pleural tapping and can be followed up in the ambulatory care centre. In addition, ambulatory services can also support elective medical procedures and enhance early hospital discharge. For example, patients requiring Oesophagogastroduodenoscopy (OGD) guided insertion of nasogastric tube can be managed in ambulatory care setting and can be discharged same day after the procedure.

There are other medical conditions that are relatively stable and can be planned in the out-patient setting. For example, patients with fluctuating blood sugar level can be managed in ambulatory centre. With the support from endocrinologists, specialty nurses and AH services, individualised management plan can be offered for diabetic patients. For managing patients with over- or under-warfarinisation, physician assessment, dietetic education and drug counselling can be organised in the ambulatory centre.

Provide one-stop ambulatory service for specific group of patients

The CWG recommends the provision of one-stop service by using suitable clinical pathways to maximise the benefits of managing patients in ambulatory care setting. Taking the pre-operative service as an example, the CWG proposes that the patient journey before an operation should be arranged in a more coordinated manner. Assessment by anaesthesiologist, blood tests, optimisation of co-morbid conditions will be arranged in a one-stop approach. The proposal involves the

re-engineering of patient pathways which minimise the number of pre-surgery hospitals visits. Details of pre-operative care are included in the report of CWG on Peri-operative Services.

The recommendation made by the CWG on Musculoskeletal Services to set up an ADCC is also a good illustration of multi-disciplinary service model targeting specific patient groups and disease conditions.

Day Surgery

Regarding the ambulatory surgical services, the CWG recommends that Cluster should further develop the culture of day surgery. Successful implementation of day surgery will require committed clinical leadership, clinical protocols for patient preparation and well-designed workflow to facilitate same day admission and discharge. The provision of efficient and effective day surgery service relies on the selection of suitable cases from surgical stream specialties.

IMPLEMENTATION ENABLERS

Manpower and multi-disciplinary team development

The adoption of ambulatory care model requires a paradigm shift in the way medical services are delivered. The Cluster is required to define the conceptual model in ambulatory care service and deliberate on the goals for implementing this model. Therefore, targeted training can be organised and clinical expertise can be developed for the service models described above.

The plan is to set up a multi-disciplinary team in the short term and start pilot projects on specific care pathway such as peri-operative care. It is envisaged that the operational model and other cluster-based protocol will be worked out in the coming years.

Easy access to diagnostic and treatment facilities

The success of ambulatory care model, especially for the management of emergency medical conditions, should be supported by fast track diagnostic services. The centre should have fast track access to radiological investigations such as Computed Tomography (CT) scan, ultrasound examination, as well as other services in electro-diagnostic tests (echocardiogram, upper endoscopy, etc.). Fast track AH support from different disciplines such as dieticians and physiotherapists will allow the ambulatory care team to manage more complex conditions in the ambulatory care unit.

Facility planning

The successful implementation of ambulatory care services will be enabled by a purpose-built facility in the future planning of hospitals in NTWC. The ambulatory care facility, located near or within the hospital complex, can house the multi-disciplinary team according to the intended clinical services. Day wards of different specialties, renal dialysis unit, electro-diagnostic unit (EDU), GDH, AH day rehabilitation unit and radiology services are suitable to be placed in ambulatory centre. A close relationship with diagnostic and treatment facilities including radiology, pathology and endoscopy service allows the ambulatory care team to manage patients with emergency as well as chronic medical conditions. The ambulatory centre can be accessed easily and should have clear way finding features to facilitate large number of patient visits every day.

CARDIAC SERVICES

Chair / Co-chair

Dr P W YAM	Deputy Chief of Services (Medicine & Geriatrics), TMH
Dr C S LAM	Chief of Service (Medicine & Geriatrics), POH

The Cluster strives to provide high quality cardiac care services. A multi-disciplinary and integrated cardiac care model will be adopted in the Cluster to meet the challenge of increasing total population, earlier onset of cardiac disease in general population, and ageing of population in the coming ten years in the Cluster. In the following section, the discussion will focus on the pressure area in cardiac service namely management of ischemic heart disease, congestive heart failure and cardiac rehabilitation.

RECOMMENDED MODEL OF CARE

To align with the directions set out in HA's Strategic Service Framework (SSF) for Coronary Heart Disease, an integrated and cluster-based service delivery networking model will be implemented to enhance access to cardiac services.

Ischemic heart diseases

ST segment elevation myocardial infarction

Patients with ST segment elevation myocardial infarction (STEMI) may reach the A&E departments via ambulance or self-transport. The objective is to develop a 24-hour primary percutaneous coronary intervention (PPCI) service for the Cluster, through a networking system, to support the provision of an optimised reperfusion strategy for STEMI patients. TMH will serve as the Cluster's designated centre for PPCI and tertiary referral central for complex cases while POH will be able to handle acute cardiac cases during daytime. In this connection, cluster-based clinical pathways will be used to facilitate the patient transfer to designated PPCI centre when necessary.

Acute coronary syndrome / Non-STEMI

Through clinical assessment and risk stratification by using scoring systems such as Global Registry of Acute Coronary Events (GRACE) score or Thrombolysis In Myocardial Infarction (TIMI) score, in-pa tient coronary care and PCI service will be provided at both TMH and POH.

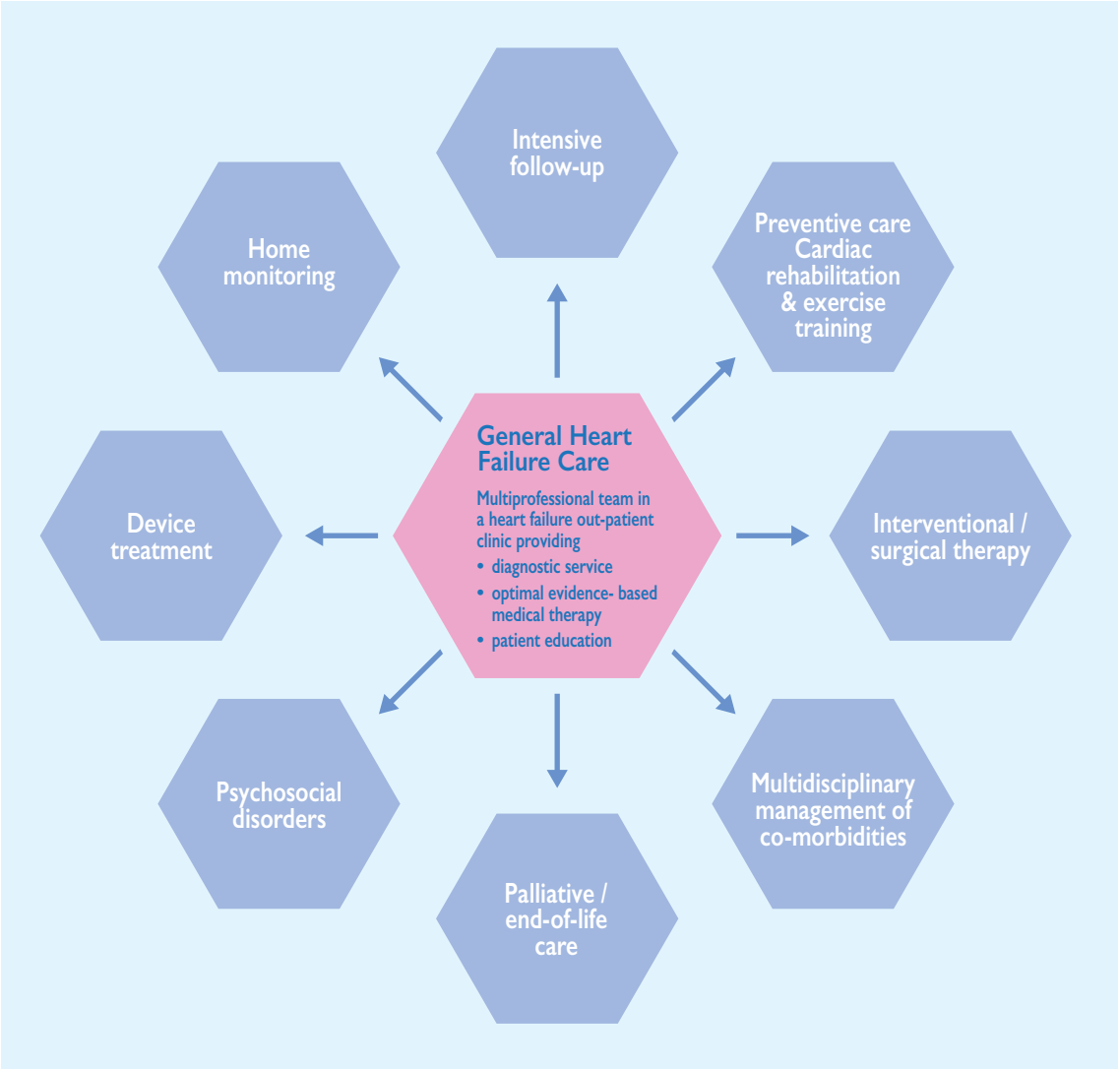
Stable ischemic heart disease

Shared care model with FM / GOPC / general practitioners (GPs) is the expected model of care for patients with stable ischemic heart disease (IHD). Clinical Pathways should be developed for triage of referrals and shared care of stable IHD. Education, patient empowerment, risk factor modification and monitoring should be integrated into the management protocol. Primary prevention for patients with risk factors for IHD such as diabetes mellitus, hypertension, hyperlipidaemia, and smoking history should be implemented to prevent development of IHD.

Congestive heart failure

Frequent admissions to the hospital for patients with congestive heart failure have created heavy pressure on the in-patient system, especially during the winter surge period every year. Poorly controlled health failure also affects the quality of life for many patients. The CWG proposes a biopsychosocial approach to improve patients' quality of life, improve morbidity and mortality and reduce hospitalisation (Figure 9). The programme should include interventions to optimise pharmacological therapy and non-pharmacological therapy. These include device therapy, cardiac rehabilitation, timely selection of patients for heart transplantation, psychological and social support with telephone consultation. Further collaboration with existing services such as CNS, CGAS and other discharge support programmes will be explored to support this group of patients. For end stage heart failure patient, discussion on advanced care planning and access to palliative care services should be considered.

Figure 9



Adapted from: Christian Ukena, Michael Böhm; Management of heart failure: are specialists really needed?. Eur Heart J 2013; 34 (6): 416-418. doi: 10.1093/eurheartj/ehs266

Cardiac rehabilitation

In line with the SSF for Coronary Heart Diseases, the Cluster will strive to develop standardised cardiac rehabilitation programme by using a multi-disciplinary team approach. Target patient groups include post-myocardial infarction patient, post-PCI patients, post Coronary Artery Bypass Grafting patients and congestive heart failure patients.

IMPLEMENTATION ENABLERS

Facility planning and capacity planning

The CWG proposes to adopt the institution model for the arrangement of cardiac facilities in the hospitals in NTWC. When future opportunity arises, the relocation of existing cardiac beds close to coronary care unit (CCU) / cardiac catheterisation laboratory (CCL) will enhance the efficacy of patient care. The Cluster should plan the hardware facilities such as CCLs according to the corporate service demand projection. The need for additional CCL in the Cluster will be regularly reviewed.

Development of clinical pathway and standard protocol

To enhance the outcomes of STEMI patients, strengthening of services along the patient pathway is recommended. Cluster-based cardiac rehabilitation programme in both in-patient and out-patient settings should be strengthened. In this connection, development of clinical pathway for referral, share care and step down of stable ischemic heart disease patients and primary prevention for IHD with standard protocols for risk factors modification will be considered.

Planning of Electro-diagnostic Unit

The CWG recommends that electro-diagnostic Unit (EDU) should be available at both TMH and POH to support both in-patient services and out-patient care for ambulatory patients. Standard protocol can be developed for ordering investigations in the unit. The size of EDU would depend on population served and the complexity of service provision. As many of the services will be provided in the ambulatory setting, the EDU should be planned within the ambulatory care zone of the hospital complex when opportunities arise.

Diagnostic radiology

Demand on diagnostic radiology (DR) support for cardiac investigations such as computed tomography coronary angiography (CTCA), magnetic resonance imaging (MRI) heart and radioisotope scan with / without positron emission tomography (PET) / CT are expected to increase. The development of hardware and expertise, together with clinical pathways for the procedures should be planned ahead.

NEUROSCIENCE SERVICES

Chair

Dr K Y YAM Chief of Service (Neurosurgery), TMH

The CWG on Neuroscience Services sets out a cluster-based, multi-disciplinary and holistic service model for integrated management of patients with neurological diseases.

RECOMMENDED MODEL OF CARE

TMH, POH and TSWH shall work together in a coordinated "hub and spoke" model to provide a full range of basic to advanced neuroscience services for the Cluster. Clinical neuroscience services will be concentrated at TMH for integrated management of neurological diseases. Members of the multi-disciplinary team will include neurologists, neurosurgeons, radiologists, oncologists, psychiatrists, endovascular interventionists, nursing and AH professionals as appropriate. TMH will continue to serve as the tertiary referral centre for major stroke and neurosurgical conditions for NTWC.

Stroke service network

Acute hospitals in the Cluster shall form a triage network for comprehensive acute stroke management. Time-dependent treatment for acute ischaemic stroke, such as intravenous thrombolytic and endovascular interventions, should be provided according to standardised cluster-based protocol in the acute hospitals in NTWC. Information technology and tele-medicine infrastructure will continue to enable the Cluster stroke team to provide assessment and management of acute stroke presented to A&E departments within the Cluster. Future development of emerging hyper-acute stroke therapy and endovascular re-vascularisation treatment, which requires specialised expertise, should be concentrated at TMH.

Neuro-rehabilitation

With the existing facilities and expertise at TMH Rehabilitation Block, it will function as the tertiary rehabilitation centre for patients who require intensive and advanced technology for their rehabilitation needs. Standard stroke rehabilitation protocol and procedure will be developed at POH and TSWH to support patients in Yuen Long.

Rehabilitation specialists will work closely with neurology and neurosurgery team to support the rehabilitation needs of both neurology and neurosurgical patients. The multi-disciplinary input is important in optimising patient recovery, preventing complications and preparing carer for the long-term rehabilitation and care arrangements.

Ambulatory rehabilitation services will be developed in collaboration with the NGOs to enhance the continuity of care from hospital to the community. Standard transition protocols and platform will be used according to the patient needs.

Stroke service is used as an example to illustrate the cluster-based service arrangement. Same principle should apply to the other disease conditions / services, such as epilepsy, Parkinson's disease and multiple

sclerosis, cognitive neurological disorders, neuro-inflammatory diseases, neuromuscular diseases, neuro-critical care and neuro-oncology service.

The following table summarises the recommendations in the distribution of different neuroscience services in NTWC.

Table 2

Service level (Proposed location)	Examples
Basic (TMH, POH, TSWH)	○ Acute stroke care pathway (e.g. triage) ○ Head injury & haemorrhagic stroke service ○ Neuroimaging ○ Basic pain management ○ Inpatient and out-patient rehabilitation ○ Neurophysiological study & monitoring
Comprehensive (TMH)	○ Comprehensive stroke centre including intra-arterial thrombectomy ○ Cerebral revascularisation ○ Epilepsy surgery ○ Complex multi-disciplinary spine programme ○ Brain tumor management ○ Neuro-rehabilitation for spasticity management

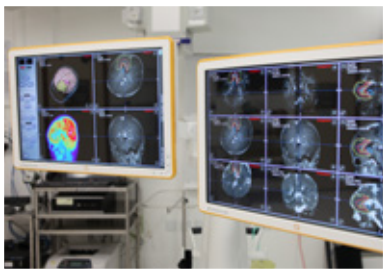
IMPLEMENTATION ENABLERS

Clinical management pathway

The CWG recommends the Cluster to establish and refine the clinical management pathway for common acute neurological conditions. In particular, a proactive triage protocol for neuro-rehabilitation will be needed to enhance patient care efficiency.

Radiology support to neuroscience service

MRI remains as the cornerstone of neuroscience imaging. The service capacity for different neuro-imaging modalities should be planned according to the growth in service demand. With the concentration of complex cases at TMH, adequate capacity at TMH is preferred to be reserved for in-patient demand and urgent cases, while non-urgent scans can be planned at POH and TSWH.



Standardised clinical management and imaging protocols are recommended to facilitate neuro-radiology service arrangement. The access to PET / CT service for patients in NTWC will also be essential in the diagnosis of many types of neurological conditions. Facility enhancement in angiographic service and introduction of hybrid theatre would be necessary for the development of neuro-radiological procedures.

GASTROINTESTINAL SERVICES

Chair / Co-chair

Dr Lawrence LAI	Cluster Coordinator (Quality and Safety), NTWC / Consultant (Medicine & Geriatrics), POH
Dr Michael POON	Consultant (Surgery), TMH

The CWG on gastrointestinal (GI) service is commissioned to propose a cluster-wide GI service model based on multi-disciplinary team and cross hospitals collaboration. The model is built on a unified leadership within the Cluster and a clear role delineation of hospitals in NTWC in terms of service provision.

RECOMMENDED MODEL OF CARE

Integrated gastrointestinal disease ward

The CWG recommends setting up an integrated GI ward to manage patients suffering from high-risk GI conditions such as severe GI bleeding, pancreatitis and other hepato-biliary-pancreatic conditions requiring invasive interventions. Patients in the integrated ward will be jointly managed by surgical team and GI physicians, with inputs from multi-disciplinary team of AH professionals. Disease specific protocols will be established to allow early interventions and standardised treatment across different teams.

GI cancer management programmes

Protocol driven approach will be adopted for the management of GI cancers. Regular multi-disciplinary team meetings will be organised to review difficult cases and formulate early management decision. The team should involve surgeons, GI physicians, interventional radiologists, oncologists and pathologists as appropriate. The multi-disciplinary team collaboration allows thorough assessment of patients and facilitates care integration. Facing the rapidly ageing population, collaboration with geriatricians in the management of cancers such as colorectal cancer will be explored.

Development of nurse led services

The CWG recommends nursing professionals to play an active role in the management of GI conditions. For example, under the clinical governance of the medical team, the follow-up of patients with stable chronic hepatitis B infection can be managed in nurse clinics, according to cluster-based clinical guidelines. Besides, regular assessment such as Fibroscan can be provided to detect complications such as liver cirrhosis.

For patients with more complex needs, case management approach is recommended to assist the group of patients who require multi-disciplinary and multi-specialty inputs in the care process. Nurse coordinators aim to improve the patient flow, ensure that investigation results are timely reviewed, arrange fast track referrals between specialties, serve as the key person in patient education, and encourage self-care in chronic conditions. Examples of such conditions include advanced cirrhosis and liver or pancreatic cancers.

IMPLEMENTATION ENABLERS

Role delineation of hospitals in GI service

TMH will remain as the tertiary referral centre for the Cluster for complex and high-risk procedures such as Whipple operation and endoscopic sub-mucosal dissection procedures. General endoscopy service is recommended to be made available at all acute hospitals in NTWC. It is envisioned that both TMH and POH will be equipped with the ability to manage GI emergency. With increasing service demand and population growth, further development at TSWH can be considered in later expansion of the hospital.

Facility planning

The endoscopy facility at TMH should be developed to manage complex cases to fulfil its role as the Cluster's tertiary referral centre while POH can focus more on elective endoscopic procedures.

The CWG recommends establishing an integrated GI ward at TMH when opportunity arises. The GI ward should preferably be located close to the endoscopy unit and allow convenient access to and from ICU and OT.

RESPIRATORY DISEASES SERVICES

Chair

Dr K M SIN Consultant (Medicine & Geriatrics), TMH

The NTWC will adopt a collaborative approach in the provision of clinical services for respiratory diseases. The organisation of service will involve multi-disciplinary inputs from both clinical teams and community partners. A cluster-based clinical governance structure will be adopted for different aspects of the respiratory services. The CWG uses the following examples to illustrate these key components in three important respiratory diseases entities, namely lung cancer, sleep disorder and chronic obstructive pulmonary disease.

RECOMMENDED MODEL OF CARE

Early diagnosis of lung cancer

Integrated multi-disciplinary team for early diagnosis of lung cancer will be set up. Using a rapid diagnostic protocol, all patients referred to the specialty clinic from various sources with suspected lung cancer will be assessed by respiratory physicians or thoracic surgery team in the early assessment clinic. A nurse coordinator will be responsible for linking up the multi-disciplinary team according to protocol. Proper prioritisation for investigations and early surgical intervention will be arranged according to clinical assessments. Difficult cases will be discussed in the joint thoracic case conference for collective decision on management plan with inputs from multi-disciplinary team members. (Figure 10)

NTWC cluster-based sleep service

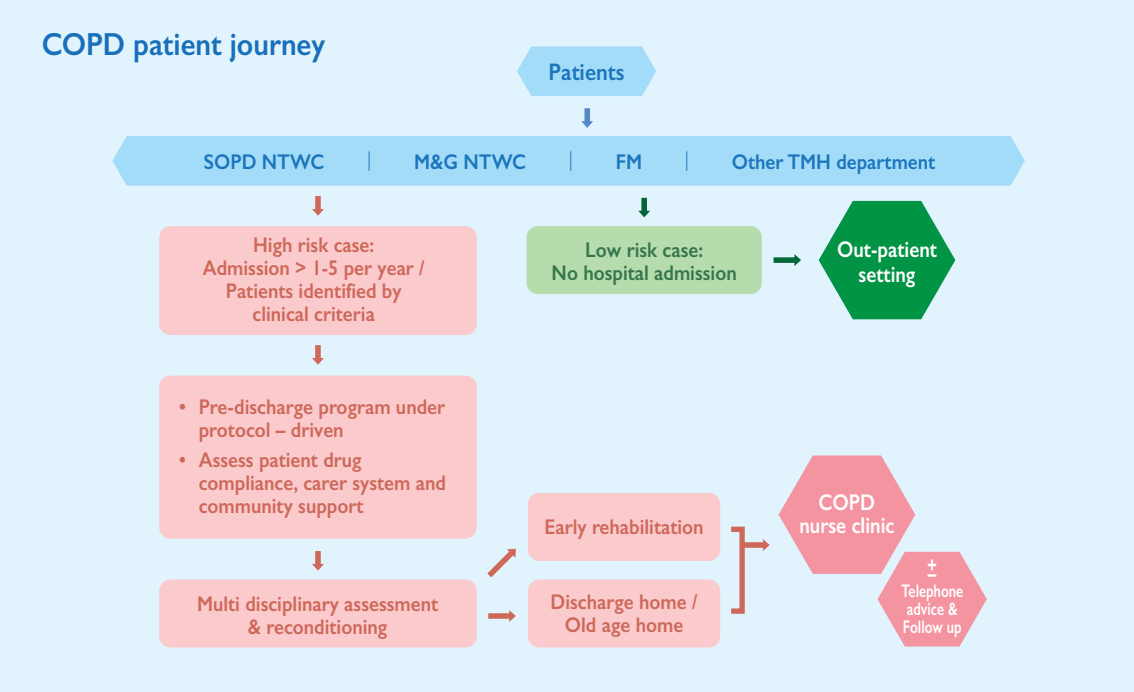
A comprehensive cluster-based sleep laboratory service is recommended at TMH for NTWC with collaboration among primary care physicians, ENT surgeons, paediatricians, respiratory physicians and psychiatrists. The sleep services will be governed by a Cluster sleep service committee which will provide the steering on service development, planning and quality assurance, including both in-house and public-private initiatives for sleep studies. Standard guidelines will be adopted for case referral, risk stratification, diagnostic tests and treatment options. The Cluster governance structure will consider the training requirements for supporting the sleep service in the Cluster and advise on the centralisation of sleep laboratory for the Cluster. Satellite laboratory can be planned according to future service growth and demand projection.

Chronic obstructive pulmonary disease (COPD) care pathway

(For RAMP of COPD, please refer to report of CWG on Chronic Disease Management)

A cluster-based, cross-specialty, multi-disciplinary model is recommended for patients with chronic obstructive airway disease. With the collaborative efforts from primary care doctors, hospital-based respiratory specialists, rehabilitation and palliative care teams, radiologists, thoracic surgeons and AH professionals, NTWC will work on establishing standard protocol to identify patients with frequent disease exacerbation and disabling symptoms. Personalised and holistic care programmes will be provided to improve disease control, promote self-management, so as to reduce the need for hospitalisation and achieve quality of life improvement.

Figure 10



IMPLEMENTATION ENABLERS

Development of management protocols

Management protocols and clinical pathway have to be developed by cross-specialty working groups according to international guidelines and local experience. It will be an important first step for the implementation of the above mentioned disease-based service programmes.

Manpower planning, training and development

The role of nursing coordinators in the above service model is very important. The nursing coordinators will follow the clinical protocols and arrange appropriate investigations in a timely manner. Appropriate training is required to develop such service coordinators to provide an integrated service for patients suffering from respiratory diseases. In addition, structured training would be necessary to develop the team and expertise for sleep study in NTWC.

Planning in diagnostic radiology

Timely and accessible diagnostic radiology service will be essential in the early assessment of malignant conditions where definitive surgical treatment can be offered. In the planning of diagnostic services, we should ensure the relevant radiological facilities are planned according to service demand projection. Patients in NTWC should also get access to other imaging investigations such as PET / CT scan.

Clinical audit and performance monitoring

Regular audit of the clinical pathways and compliance with protocol is necessary to provide feedback to relevant multi-disciplinary team to strive for continuous service improvement.

PAEDIATRIC SERVICES

Chair

Dr N S KWONG — Chief of Service (Paediatrics & Adolescent Medicine), TMH & POH / Commissioning Service Co-ordinator (Neonatology), HKCH

The Paediatric department at TMH currently provides both secondary and tertiary paediatric services to children and adolescents in NTWC. The hospital provides a wide range of paediatric subspecialty services, such as adolescent medicine, endocrinology and metabolism, gastroenterology and hepatology, haematology and oncology, rheumatology, intensive care, neonatology, nephrology, neurology and respiratory medicine. With the service commencement of the Hong Kong Children's Hospital (HKCH), the paediatric services in HA will adopt a hub-and-spoke model. The paediatric services in NTWC and the HKCH will work closely together to form a coordinated paediatric service network. NTWC will enhance its capacity in managing acute emergency, secondary services, step-down and community paediatric care for residents in Tuen Mun and Yuen Long.

RECOMMENDED MODEL OF CARE

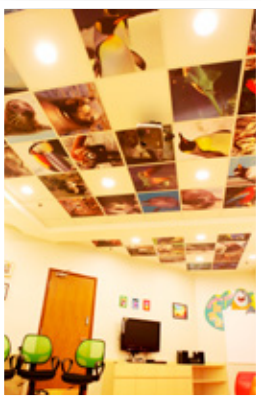
The Cluster will adopt an integrated, multi-disciplinary, patient-centred approach, supporting children and adolescents from hospital to community. Co-located with the obstetric unit of the Cluster, perinatal service will be concentrated at TMH.

In order to cater for the increasing young population and to enhance accessibility of NTWC residents to emergency paediatric services, the CWG for paediatric services recommends setting up a paediatric short stay unit at POH. For many acute paediatric conditions that require hospital admission, patients were expected to be discharged within 48 hours. The paediatric short stay unit can provide the necessary investigations and treatments of acute conditions. It is envisioned that common acute illnesses in Yuen Long will be managed locally.

IMPLEMENTATION ENABLERS

Training

To establish the paediatric short stay unit, training of healthcare professionals is necessary. Through structured rotation programme to paediatric unit in NTWC, colleagues in emergency department will be able to acquire the skills and knowledge to manage common paediatric conditions.



Improvement in facilities

Time resources and proper environmental setup are important to facilitate the one-stop and patient-centred approach in service delivery. In this connection, co-location of relevant facilities such as obstetric unit, labour rooms and neonatal ICU in a well-integrated unit for the Cluster is proposed.

TRAINING

Chair / Co-chair

Dr K S TANG	Service Director (Quality & Safety), NTWC / Honorary Consultant (Anaesthesia & Intensive Care), NTWC
Mr K M LEE	Principal, School of General Nursing, TMH

The CSP outlines the future development of the Cluster in terms of care model, service distribution and role delineation of the hospitals and clinics in NTWC. It is anticipated that the future care model will emphasise on patient-centred multi-disciplinary care approach. As such, it is essential to enhance the core competencies of colleagues in NTWC and ensure that they align with the future service models. Training and culture building to tackle existing gaps is instrumental to the successful implementation of the NTWC CSP. The CWG for Training is therefore responsible to look into the training requirements for NTWC staff in the coming years so as to equip every staff for the challenges ahead.

In the following section, the discussion will focus on the "horizontal training" that involves collaboration between clinical specialties and disciplines. Professional development of individual disciplines (e.g. specialist training for doctors, professional development for AH professionals) is not covered in the report because this training shall rest on their respective professional bodies or colleges.

RECOMMENDED MODEL OF CARE

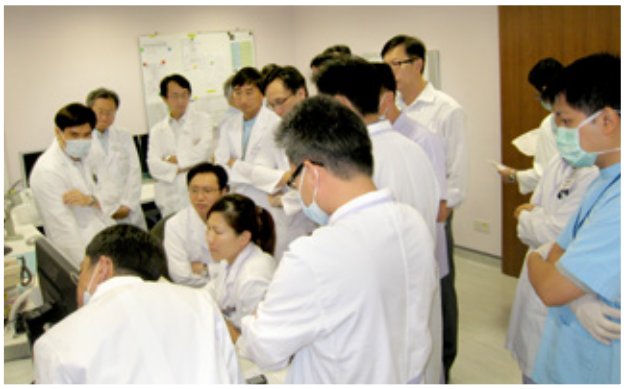
Defining the training requirement according to future service development

With the increasing emphasis on multi-disciplinary patient care, the training requirements should be defined before effective training programmes can be organised. Team leadership, knowledge about change management, conflict resolution and patient engagement skills are a few examples of the skills required to run an effective team.

Most proposals written by the CWGs involve the introduction of case managers in the patient care pathway. Case managers will function as care coordinators to support patients in different aspects of the care process, as well as assist patients in navigating through the healthcare system. The skill set required should be discussed within the Cluster and core competencies should be defined. Inputs from relevant subject officers in HAHO can be sought if appropriate. In that case, the Cluster will nurture suitable human capitals to fulfil the needs of the clinical service programmes.

The same principle should apply to other disciplines such as doctors. Training roadmap needs to be presented clearly as the staff progress through their career.

Training of medical students and interns



At present, the training of medical students is mainly arranged between the universities and individual clinical departments. Enhancement of central coordination of these training activities can be explored. Increasing its involvement in academic activities, the Cluster will build up a learning culture for achieving new heights in its clinical services. The CWG also recommends a standard training curriculum to be established in NTWC for medical interns to ensure the quality of training. It will also be beneficial in terms of attracting new graduates to join the workforce of NTWC.

IMPLEMENTATION ENABLERS

Cluster governance in training and development

Training and Development Committee (T&D Committee) is established under the Cluster Management Committee to oversee the Cluster's issues related to staff training and development. The committee is responsible for formulating Cluster's strategies, vetting training programmes, assessing Cluster's training needs, as well as overseeing the financial support to specific training programmes.

The CWG recommends experienced trainers from different disciplines in NTWC to form a trainer workgroup under the T&D Committee. The workgroup shall advise the T&D Committee regarding the training needs and future development on multi-disciplinary training in NTWC. The arrangement will encourage the sharing of expertise in staff training, facilitate coordination between training activities in terms of scheduling and promulgation, and allow sharing of training facilities. In the process, the Cluster will also ride on the training activities organised by HAHO and achieve synergy with the corporate initiatives.

Facilities for teaching and training

The CWG recommends establishing a Cluster's training centre at TMH, which will serve the whole Cluster. The existing nursing school at TMH and old Nurse Quarters Block can be renovated and updated to accommodate the training activities organised in the existing Clinical Skills Training Centre, which is located in the clinical area in the Ambulatory Care Block. With the proposed movement, clinical space in the Ambulatory Care Block can be released for other clinical services.

The Cluster's Training Centre should be equipped with basic simulation training facilities and skill-based training equipment, in addition to a classroom teaching environment.

OBSTETRICS AND GYNAECOLOGY SERVICES

The O&G services in NTWC is organised as a cluster-based service under single clinical governance to ensure a comprehensive and high quality service is provided to residents in all districts covered by the Cluster.

RECOMMENDED MODEL OF CARE

Obstetric service

The care for the expectant mother will be continued at TMH. Antenatal and postnatal care will be provided in out-patient and day care settings while in-patient care will be supported by the obstetric units at TMH. In the planning of the new OT Block, new labour and delivery facilities are expected to be developed according to modern standards.

The development also brings along the opportunity for the Cluster to develop midwife-led care model for mothers before, during and after delivery. For low-risk pregnancies, midwives can take the lead, together with the expectant mother, in planning, organising, and delivering their care from antenatal booking through to postnatal period. The service model will offer high level of continuous care. If there is any change in clinical condition, immediate support from obstetricians will be available.

Gynaecology service

TMH will be the multi-disciplinary platform for management of most gynaecological malignancies. On the other hand, the ambulatory gynaecology centre at POH will continue to play an important role in providing out-patient / day-patient based gynaecology services for residents in NTWC catchment area. The existing set-up allows quality one-stop service where doctor's consultation, nurse-led procedures and other investigations are provided. It will also function as the resource centre to take care of psychological needs of patients and support community education on women health issues.

IMPLEMENTATION ENABLERS

Facility planning

To facilitate the collaboration between obstetric and neonatal services at TMH, it is recommended that relevant facilities such as the obstetric unit, labour rooms, OTs and neonatal ICU should be located in close proximity. The number of labour rooms will be planned according to the changes in service demand and population growth. The design of patient-care area will support baby friendly initiatives to promote breastfeeding.

Training and manpower support

With the anticipated gradual improvement in manpower situation, staff training for new service models, such as midwife-led perinatal care, needs to be organised to enable Cluster's service development. Adequate manpower support is essential for the enhancement of day surgery services at POH, aligning with the hospital's role as the Cluster's ambulatory surgery centre in future.


KIANG WU HOSPITAL 鏡湖醫院
小 橇 醫 院
SIU LAM HOSPITAL

Role Delineation for Hospitals and Healthcare Facilities

Hospitals in NTWC will adopt a collaborative and coordinated approach to align their services and implement the proposed strategies and service models deliberated in the earlier chapters of this CSP. The services in NTWC hospitals will be organised as a cluster-based service network for different clinical specialties. Patients with complex conditions will receive treatments from the major acute hospitals of the Cluster according to predefined clinical protocols. Medical services for patients with less complex conditions such as primary care and community-based services will be available locally in both Tuen Mun and Yuen Long.

This approach will enable services to better balance accessibility through more localised care, with the benefits of concentrating clinical expertise and technology for enhancing patient safety, quality of care and efficiency. In order to provide an effective and integrated care along the patient pathway in the Cluster, this chapter will outline the roles of the NTWC hospitals which will provide a systematic basis for developing appropriate organisation of services for the residents in the New Territories West region.

Hospital	Role
TMH	*An acute hospital providing a comprehensive range of acute, convalescent, rehabilitation and ambulatory care services which also serves as a trauma centre*
POH	*An acute hospital providing emergency services, selected specialist services and ambulatory care services for Yuen Long*
TSWH	*An ambulatory care focused acute hospital providing acute, convalescent and ambulatory care services serving the residents in Tin Shui Wai area*
CPH	*A specialty hospital providing full range of cluster-based psychiatric services as well as territory wide forensic psychiatry services*
SLH	*A specialty hospital providing infirmary and rehabilitation services for patients with severe and profound intellectual disability*

TUEN MUN HOSPITAL

TMH will provide comprehensive secondary services for the residents of Tuen Mun and serves as the tertiary referral centre for NTWC. It will be responsible for care of patients requiring neurosurgical services, round the clock emergency cardiac interventions and acute trauma services. Cancer services will continue to be concentrated at TMH to capitalise on the expertise and high quality facilities offered by its oncology centre in future.

On the other hand, TMH Rehabilitation Block which was completed in 2007 will continue to offer care for patients transferred from acute ward for extended care and rehabilitation. Sophisticated technology will be featured in the rehabilitation process for patients in need. Other than the existing in-patient care model, it will also focus on developing day care model with a view to minimising hospitalisation and shortening the hospital stay.

In addition, the construction of a new OT extension block is underway in the TMH campus. It will provide 20 new operating theatres and the associated supporting services. The new OT Block can expand the OT service capacity and capability of TMH and further strengthen the hospital's role as the tertiary referral centre for advanced interventional radiology and neurosurgical condition.

Since TMH is located in the centre of TMH Mun with convenient public transport network, it has the geographical advantages to develop ambulatory care services — a patient-focused service where patients could be treated in the ambulatory setting without the need for an overnight stay in the hospital. It is envisioned in any future redevelopment opportunity for TMH, a dedicated site should be reserved to house the ambulatory care functions of the hospital.

TMEC, currently located in Tuen Mun Town Centre, will continue its role in providing ophthalmology services for the residents in NTWC. Taking into account of the increasing service demand arising from ageing population and the physical constraint of the TMEC, NTWC will consider establishing a cluster-based eye centre in the ambulatory site of TMH through the future opportunity of hospital redevelopment.

POK OI HOSPITAL

POH together with the newly opened 300-bed TSWH will form a service network to support the provision of acute medical and surgical services in Yuen Long. POH will continue its role as the joint replacement centre for the Cluster and provide convalescent care for patients admitted through its A&E department. At the same time, POH will enhance the ambulatory care services in the ambulatory day centre. Breast, urology and gynaecology services are suitable candidates for adopting such a model of care.

On the other hand, Tin Ka Ping infirmary will augment its role in supporting the long-term healthcare need of infirmary patients.

In the long run, leveraging on the future development of TSWH, consideration may be given to shifting the centre of acute medical care to Tin Shui Wai area. POH can focus on developing ambulatory care services and strengthen its role on day / short stay surgery, high volume diagnostic services and Cluster's breast services.

TIN SHUI WAI HOSPITAL

TSWH will be an ambulatory care focused hospital, which also provides emergency services for the residents in Tin Shui Wai area. Clinical services will be commenced by phases and supported by the service network arrangement with TMH and POH. In order to improve the accessibility of medical care for local residents in Yuen Long, satellite centres such as those for chemotherapy service, palliative care as well as ambulatory surgery will be considered at TSWH under the cluster-based governance structure.

NTWC will also closely monitor the growth of service demand in Tuen Mun and Yuen Long, especially the population intake in Hung Shui Kiu New Development Area. Planning and further development of the TSWH will commence accordingly.

CASTLE PEAK HOSPITAL

The existing role of CPH will continue, particularly in the provision of comprehensive psychiatric services for the Cluster, gazetted beds for patients admitted under the Mental Health Ordinance, and forensic psychiatry for the whole territory. It will adopt a holistic, patient-centred mental health service that cuts across different levels of care. CPH shall also lead the development of community psychiatric services on mental health services in NTWC.

SIU LAM HOSPITAL

SLH is currently providing comprehensive infirmary and rehabilitation services for patient with severe and profound intellectual disability from different regions of Hong Kong.

With the improvement in social support for people with disabilities over the years, the hospital shall, as a long-term strategy, initiate the discussion to review the current service model according to the changing need of the patients, for example, shifting its focus from in-patient care to community care.

Service Development Priorities

Wetland Park, Yuen Long / 元朗濕地公園

This chapter sets out the recommended service development priorities of the Cluster in support of the role delineation of hospitals and the recommended clinical strategies highlighted in the earlier chapters of the CSP. In particular, the short-, short to medium-, medium-, medium to long- and long-term strategies of the Cluster will be outlined. The priority is drawn up based on the assessment on clinical needs, urgency of the improvement measures as well as the readiness for implementation.

SHORT-TERM STRATEGIES (LESS THAN 2 YEARS)

- In 2014-15, nearly 1,000 cases are being transferred from the A&E department of POH to TMH per month, more than half of which are surgical or orthopaedic cases. This has inevitably increased the burden and the service demand on TMH. Priorities will be given to the introduction of a **24-hour emergency surgical service at POH** to support the emergency surgical services in Yuen Long.

- To improve the surgical services in the Cluster, short-term strategies such as the **implementation of a peri-operative care model** is recommended. The proposed peri-operative model is based on internationally accepted best practice. The model will be protocol-driven, employing a multi-disciplinary approach to prepare patients for surgery adequately.

- In view of the rapidly ageing population and increasing service demand, there is an urgent need to enhance the patient care pathway, especially for elderly patients. The Cluster will initiate a pilot programme to provide geriatrics team support at the A&E departments of the hospitals in NTWC, i.e. the **Geriatrics at Front Door Programme**. Geriatrics team will enhance its collaboration and involvement in the care of patients across different specialties such as orthopaedics, peri-operative services and oncology. In addition, enhancement of a **medico-social collaboration** and **GDH** will be carried out as short-term strategies for improving care for the elderly.

SHORT TO MEDIUM-TERM STRATEGIES (2-5 YEARS)

- Currently, paediatric services are concentrated at TMH. In order to meet the increasing service demand in the Cluster, especially in Yuen Long, appropriate services is needed. It is proposed that a **paediatric short stay unit** should be established **in Yuen Long**. This unit will be adjacent to the A&E department for the treatments of paediatric patients who are expected for short stay care. At the beginning, the unit will be operated under a collaborative model between physicians and paediatricians in NTWC. The patients will be transferred to TMH if no definitive diagnosis or improvement is obtained within the short stay period. Medium-term support involving training of healthcare staff will be required for smooth implementation of such a service model. The medical and nursing staff in the A&E department will start to prepare for the proposed service model by rotation training to the paediatrics department at TMH.

- Multi-disciplinary collaboration in the Cluster is a recurring theme in many recommendations proposed by the CWGs as a short- to medium-term strategy towards patient-centred care. Protocols will be established for different clinical pathways. One of the examples is the "integrated multi-disciplinary co-care model" proposed by the CWG on Musculoskeletal Services. This **geriatric-orthopaedic care model** for **geriatric hip fractures** will cover acute management, rehabilitation through to community re-integration involving input from different professional disciplines. NTWC should continue to develop multi-disciplinary and disease-specific programmes to enhance the patient care pathway for individual diseases management.

MEDIUM TO LONG-TERM STRATEGIES (5-10 YEARS)

- It is recommended that patients presented with emergency surgical condition should be managed in a single location within the hospital such as a designated ward for initial management. An option will be introducing the concept of a **surgical admission ward**. Patients will receive appropriate investigations and diagnostic procedures at this admission ward before being transferred to OT and surgical ward for subsequent post-operative care. This model allows the concentration of expertise, especially the nursing team, to manage emergency surgical conditions in an efficient manner and facilitate multi-disciplinary inputs in the management.

- Ambulatory care models have become the worldwide trend in healthcare delivery. With the advancement in modern medical technology such as minimally invasive surgery techniques, many diagnostic and treatment procedures can be safely completed without needing the patients to stay at the hospital. Considerable attention needs to be given to the development of **ambulatory models** of care in NTWC. The Cluster management will lead the discussion to develop an appropriate ambulatory care model for the Cluster. During the process, the targets (e.g. avoidance of elective hospital admission, reduction in hospital length of stay, enhancement of service coordination, etc.) of establishing such models should be delineated and the training implications should be addressed. Space should be reserved for a dedicated ambulatory facility within the hospital campus.

LONG-TERM STRATEGIES (BEYOND 10 YEARS)

- The upcoming development of the new labour and delivery facilities at TMH provides an opportunity for the Cluster to explore a new service model for the obstetric delivery service. A **midwife-led care model** for mothers before, during and after delivery is proposed. For low-risk pregnancies, midwives can take the lead, together with the expectant mother, in planning, organising, and delivering their care from antenatal booking through to postnatal period. The Cluster should work towards a consensus on the planning steps that are required for establishing such a service model in NTWC.

- Many clinical services are scattered around in the TMH campus in locations that are not conducive to either good patient care or efficient management. Several of the major disciplines including CWGs for Neuroscience Services, Gastrointestinal Services, and Cancer Services, identified the "**institutional model**" as the preferred model for their operation. The "institutional model" is the model where diagnostic and therapeutic modalities are co-located to facilitate service delivery. The CSP strongly supports this approach, not only for its efficiencies but also its facilitation of patient-centred care and enhancement of collaboration amongst specialties. However, most of these developments will have to integrate with the major redevelopment. The facility design implications of these models will be described in the chapter on Implementation Enablers of the CSP.

Implementation Enablers

Siu Hong West Railway Station, Yuen Long / 屯門兆康西鐵站

In facilitating the execution of the recommended clinical strategies and role delineation of the hospitals / facilities highlighted in the individual clinical service programmes, a number of key drivers will be necessary as enablers of change, including **governance structure, workforce planning, Information Technology support, and physical design of the clinical facilities.** Most importantly, many of the proposed improvement measures and development strategies involve a mind-set change in provision of the medical services. Many of the changes can begin immediately.

GOVERNANCE STRUCTURE

Overall, a cluster-based platform should be set up to oversee the implementation of the CSP, while the HA annual planning process will be the mechanism to secure the resources required for implementing the strategies. Different CWGs also propose to set up Cluster committees to steer the development of clinical areas. Examples are included in the proposals made by the CWGs for Cancer Service and Training.

WORKFORCE PLANNING

Staffing and training are essential to the implementation of the recommended strategies and service development. A thorough forward planning on workforce capacity and capability will be crucial. The recruitment and training of staff shall tie in with the annual planning cycle. Besides the development of the required skills and expertise, it is also important to build the organisation culture in multi-disciplinary collaboration, as well as grooming the constructive interaction between specialties and disciplines. Strong clinical leadership should be the key.

Different CWGs propose to enhance the role of nursing professionals in the patient management pathway and their participation as case managers to take care of patients with complex needs. Targeted training will be needed to equip the workforce for the proposed service model. The same approach should be applied when the Cluster plans for nurse led-service models such as those proposed by the CWGs for Mental Health Services, Peri-operative Services and Musculoskeletal Services.

In parallel with the development of specialised skills in specific clinical specialties, population ageing also calls for a generalist approach in the care of our patients. Older patients account for the majority of the service utilisation in HA. It is expected a growing proportion of patients will present to our system with multiple medical problems that impair their physical function and require social support. As described in the report by CWG for Care for the Elderly, the workforce in HA shall be familiar with the skills and resources available that can enable older patients to remain healthy in the community.

INFORMATION AND COMMUNICATION TECHNOLOGY

On the whole, information and communications technology support to the Cluster is essential to support the models of care proposed in the earlier chapters. In particular, to facilitate the movement towards community-based clinical services models, mobile technology should allow easy communication between hospital specialists, primary care team and community team regarding the patients' clinical condition. Common electronic platform should facilitate the shared care models between different levels of care, as discussed by the CWGs for Cancer Service and Chronic Disease Management.

Automated risk assessment system, as proposed by the CWGs for Peri-operative care and Care for the Elderly, would facilitate the triage of patients according to a risk-based approach. The information will be used to plan for suitable intervention. For example, patients considered to have high risk of peri-operative complication will be offered a more intensive pre-operative optimisation package.

Tele-medicine will continue to support the whole Cluster for the management of acute stroke, trauma and other acute neurological or neurosurgical emergencies. Tele-consultation can be carried out through tele-conferencing, tele-radiology, and remote electronic access to patient's health record via mobile devices or workstations. This will enable off-site specialists to support the clinical management of patients in different locations in NTWC.

PHYSICAL FACILITIES

Many of the service development proposed in this CSP can be started without the need to wait for hospital redevelopment. However, due to the staged development of the hospital facilities in NTWC, the spatial arrangement and relationship between different functions within the hospitals is suboptimal. When future redevelopment opportunity arises, improvement works can update the existing physical facilities towards modern hospital standard.

The following design concepts have been developed to reflect the aspirations of the clinical service programmes and would be useful in facilitating the implementation of new service delivery models described in the preceding chapters. Although TMH is used as an example to illustrate the relevant design concepts, similar concepts should be applied in the planning of different healthcare facilities within NTWC.

FUNCTIONAL ZONING

The zonal approach refers to the planning of facilities around the clinical activities as opposed to departments or specialties. Areas are classified according to their functions and services, and to patients' needs. For example, the new OT Block at TMH will define the "critical care zone" on the site and will require any future critical care facilities to be developed adjacent to it. It is often seen as the "engine room" of modern hospital where A&E department, radiological imaging facilities, ICUs and OTs will be located around the same area. They will be connected by dedicated circulation for patient transfer and staff movement. The arrangement will bring together disciplines in a highly integrated manner to support time critical services at the acute hospital. (Figure 11)

PROGRAMME FLOORS

The programme floor concept is akin to an institutional model where integrated clinical programmes are accommodated. In these situations, the specialties are co-located with their diagnostics, clinics, teaching and research facilities and sometimes their in-patient beds, all in one unit. It requires close proximity of the areas, with the potential of locating on the same floor. This concept may require a large flexible floor plates and a generic and adaptable design approach.

The programme floor concept is recommended for integrated clinical programmes in NTWC, which will be developed for GI, neuroscience and cardiac services through the future opportunity of hospital reconfiguration / redevelopment.

LARGE FLOOR PLATES

Large floor plates with excellent connectivity, both horizontal and vertical, are an essential platform for an effective modern hospital. They support the ability for large departments to be located and co-located to support critical clinical adjacencies. Co-location of departments where interdepartmental movements are frequent, will reduce high levels of movement through building for staff and patients, and will facilitate a team-based delivery of care.

PATIENT-CENTRED DESIGN CONSIDERATIONS

On the whole, there are other design elements that can improve the experience of patients and their families in the hospitals and contribute to their sense of well-being. It requires a conscious effort to design from the perspectives of the patients, families and carers and taking into account what would add to their convenience and comfort without compromising clinical and operational efficiency and safety.

For instance, intuitive way-finding is an important component in the design of internal circulation at the hospital. TMH is blessed with excellent accessibility from public transport (light rail of MTR and buses). The majority of public arrive by the light rail which is on the east side of the hospital site. From this point, a clear entrance and circulation route such as a hospital street, which runs along the full length of the building and connect the different buildings, can be developed. The street will provide a major internal landmark that assists with the orientation of the visitors and patients and enable them to navigate easily. Easy way finding is essential in the hospital design, especially when a high volume of patients are expected to visit the facilities every day along with the development of ambulatory care service model.

Capacity Planning

Gold Coast, Tuen Mun / 屯門黃金海岸

Alongside the formulation of the clinical strategies, information is also compiled on the projected capacity requirements of the Cluster, so as to facilitate the alignment and planning of services and facilities in the future. The focus is on the acute, extended and psychiatric care beds required to be provided in the Cluster for the next two decades up to 2031, with 2010 as the base year. This is based on an overall HA-wide demand projection exercise, using demand modelling techniques.

The HA-wide demand projection takes into account population growth, demographic changes and age-gender-specialty-specific service utilisation trends. It is conducted in close collaboration with clinicians from different clinical specialty committees, cluster management teams, and the Census and Statistics Department (C&SD) of the Government.

The following sections briefly outline the planning parameters and methodology for the demand projection.

DATA SOURCES

Projections are based on data from the following four main data sources:

- Service utilisation data from 2004 to 2010 are extracted from the HA Clinical Data Repository, which includes the Integrated Patient Administration System and the Obstetrics Clinical Information System for newborn delivery data;
- Local birth statistics in 2010 and 2011, and birth projection figures from 2012 to 2031, which are obtained from C&SD;
- Population projection figures from the C&SD and district-based population projections from the Planning Department of the Government, from 2012 to 2031; and
- Cross-border eligible persons (EPs) are quantified in consultation with the C&SD.

PLANNING PARAMETERS

All parameters for the projections are age-gender-specialty-specific and comprise a combination of the following age, gender and specialty groups:

- For acute care, 10 age groups of 0-4, 5-14, 15-24, 25-34, 35-44, 45-54, 55-59, 60-64, 65-69, 70+ years, with 18 specialty groups (anaesthesiology, cardiothoracic surgery, dental, ENT, emergency medicine, gynaecology, hospice, ICU / HDU, medicine, neonatology, neurosurgery, obstetrics, oncology, ophthalmology, orthopaedics, paediatrics, surgery and other / unclassified specialty);
- Age-specific rates per female population for obstetrics and gynaecology specialties;
- For neonatology, including NICU and special care baby unit (SCBU), the planning parameters are devised from birth data;
- For extended care, including convalescent / rehabilitation care and local infirmary service, the ratio of acute to extended care bed days occupied per linked episode is considered; and
- For psychiatric care, the planning parameters involve 16 age- and disease-specific diagnosis groups.

PROJECTION METHODOLOGY

For the projected bed requirement for each clinical specialty, other than obstetrics, neonatology and psychiatry, the volume and mix of expected service demand from residents in each district is first computed taking into account the projected age-gender-specialty-specific hospital service utilisation rates and average length of stay (ALOS), as well as population growth and ageing over the period to 2031.

The hospital patronage pattern across districts is also computed, using base-year data on specialty-specific cross-cluster patient flow. The demand for NTWC acute bed days is derived by applying the assumed hospital patronage pattern specifically for NTWC, i.e., the proportion of residents residing in each district throughout Hong Kong who would use NTWC services.

In addition, since significant growth in the number of cross-border EPs were observed in the past years, the demand from cross-border EPs is also incorporated into the projection. In this regard, it is estimated that the utilisation by cross-border EPs in 2010 was around 5% and 1% of HA's total patient days for in-patient hospital services in paediatrics specialty and other specialties respectively. Among EPs who have registered using a Mainland China address, i.e., cross-border EPs, a significant proportion of them are managed in NTWC.

For obstetric services, bed demand is derived from the projected number of births in Hong Kong, including births to local and Mainland mothers. The territory-wide local birth projection figures are distributed across districts, based on the districts' projected female population aged 15 to 49 years, together with the district-age-specific fertility rates. For projected births to local mothers at district level and Mainland mothers at territory-wide level, the respective public hospital share and hospital patronage patterns among the eight HA obstetric units at base year are then applied to derive the projected obstetric bed requirement for NTWC.

With regard to neonatology, the projected births at TMH form the basis for estimating the SCBU and NICU service demand, with the use of respective utilisation rates. Referrals of infants born in other HA hospitals are also considered. At the same time the demand for SCBU and NICU from outborns (i.e., infants born in non-HA hospitals) are based on the respective utilisation rates, the total projected births at private hospitals, as well as the relative distribution of outborn admissions among TMH and the other SCBU and NICU in HA.

For extended care beds, the projected requirement for NTWC is computed based on the projected acute bed days for NTWC and the HA-wide age-gender-specialty ratio of acute to extended care bed days occupied per linked episode.

For psychiatric care beds, a similar demand modelling technique is used. The projection model takes into account population growth and ageing with consideration of cross-border EPs, age- and disease-specific service utilisation rates (comprising 16 diagnosis groups as in Table 3), and anticipated impact with the expansion of community services, as a result of shifting from in-patient care.

Table 3. Age- and disease-specific psychiatric diagnosis groups used in the psychiatry service demand projection model

Age group (years)	Diagnosis group
<18	○ Psychosis (F20-29) ○ Disorders of psychological development / Mental retardation (F80-89, F70-79) ○ Affective disorders (F30-39) ○ Disruptive behavioral disorders (F90-92) ○ Emotional disorders (F93-94, F40-48) ○ Others
18-64	○ Schizophrenia (F20-29) ○ Affective disorders (F30-39) ○ Neurotic, stress-related and somatoform disorders (F40-48) ○ Mental and behavioral disorders due to psychoactive substance use (F10-19) ○ Others
≥ 65	○ Dementia (F00-03, G30) ○ Schizophrenia (F20-29) ○ Affective disorders (F30-39) ○ Neurotic, stress-related and somatoform disorders (F40-48) ○ Others

Diagnosis groups based on consultation with representative psychiatrists in Hong Kong, and WHO ICD-10 codes.

The projection framework for psychiatric care is developed on a headcount basis using 2010 as the base year. Based on the average utilisation rate from 2008 to 2010, the model is applied to project the service demand for the 16 diagnosis groups. The projected headcounts are then applied to the age-disease-specific ALOS data at base year to obtain the projected bed days up to 2031.

Similar to other acute care specialties, the hospital patronage pattern is computed using the base-year data on cross-district hospital flow for bed days, as well as the projected population at district level. The demand for psychiatric care beds in NTWC is derived by applying the pattern specifically for CPH and TMH where in-patient psychiatric beds are provided.

For the mentally handicapped service, it is assumed that bed requirement would remain the same as the latest bed complement over the period to 2031.

CASEMIX ADJUSTMENT

To take into account the different specialty service network arrangements in HA and variations in the specialty-specific casemix profile among clusters, casemix data from 2009 to 2011 are used to identify variations in the complexity of acute in-patient services across the clusters.

Given that length of stay (LOS) increases with case complexity, for every hospital and age-gender-specialty sub-group, an anticipated LOS is computed based on the actual number of episodes of each diagnosis related group and the corresponding HA-wide ALOS. Results from this analysis on the complexity of acute in-patient services delivered among the different specialties of HA hospitals are subsequently factored into the projection.

ASSUMPTIONS FOR BED PROJECTION

The projection methodology described above provide a base-case scenario to demonstrate the nature and volume of in-patient activities to be expected for NTWC in 2031, assuming the market share of HA as well as the patient volume and mix, referral patterns and policy would remain the same over the projection horizon for the Cluster.

The projection covers both in-patient and day-patient bed days. The projected bed days for acute care beds are translated into the number of in-patient acute beds required for each specialty by assuming an 80%-90% occupancy rate, depending on the proportion of emergency caseload. For instance, for ICU / HDU, NICU and obstetrics, a lower occupancy rate of 80% is assumed since these departments generally admit patients on an urgent but random basis, hence greater flexibility should be allowed for. As for day beds under acute care and in-patient beds for extended care services, 120% and 90% occupancy rates are assumed respectively.

For psychiatric care, clinical views from the Coordinating Committee in Psychiatry are sought. Their views on expanding community-based care, by assuming an increase in the coverage of community care for patients in the age group of 18-64 years diagnosed with Schizophrenia (F20-29) and Affective disorders (F30-39), are factored into the projection model. By assuming an 85% occupancy rate, the projected bed days are translated into the number of in-patient beds required.

PROJECTED BED REQUIREMENT

The projected bed requirement for NTWC in 2031 are summarised in Table 4. According to the demand projection, it is estimated that the Cluster would need to provide around 4,200 acute and extended care beds, 1,350 beds for psychiatric care, and also 520 beds for the mentally handicapped.

Table 4. Projected bed requirement for NTWC in 2031

Care category	Projected bed requirement for NTWC in 2031
Acute care[1]	3,100
Extended care[2]	1,000
Psychiatric care	1,350
Mentally handicapped[3]	520

Notes:

1. *Excludes A&E observation beds (12 beds as at March 2016) and beds under nursery specialty (50 beds as at March 2016).*
2. *Includes beds for convalescent / rehabilitation and infirmary care, but excludes beds for Central Infirmary Waiting List placement.*
3. *It is assumed that there will be no additional bed requirement for mentally handicapped (MH) specialty over the projection horizon. As at 31 March 2016, the bed complement of MH specialty in NTWC was 500 beds while an additional of 20 MH beds are planned to open at SLH in 2016/17 according to HA's 2016/17 Annual Plan.*

Conclusion

Yeung Uk Tsuen, Yuen Long / 元朗楊屋村

The NTWC CSP sets out the Cluster's clinical strategies and future service directions for meeting the long-term healthcare needs of the community. The strategies proposed and deliberated by staff of NTWC will inform the service development and alignment within the Cluster, in particular the newly commissioned TSWH.

The introduction of new models of care such as ambulatory care model and peri-operative model as well as greater collaboration within the disciplines and across the hospitals for more integrated and patient-centred care will be an important service development in NTWC. It will help to harness the full potential of staff and efficient use of resources for the maximum benefit of patients. At the same time, it will also help in streamlining service delivery from the patient's perspective and managing the rising service demand. Besides strengthening cross-hospital collaboration, the enhancement of cluster-based services will also improve service standards and quality. In response to the changing environment, Cluster should also adopt a more efficient and flexible deployment of manpower and facilities.

The strategies and service directions in the CSP affirm the role of TMH as the tertiary referral centre of NTWC. Other than providing acute services for the residents of Tuen Mun, it will also provide centralised services for the whole Cluster such as neurosurgical services, round the clock emergency cardiac interventions and acute trauma services.

On the other hand, POH together with TSWH will form a service network to support the acute medical and surgical services for Yuen Long. POH will develop services with a focus on promoting ambulatory care services such as breast, urology and gynaecology services. Meanwhile, clinical services at TSWH will be commenced by phases and supported by the service network arrangement with POH, while TMH will provide the necessary support for patients with more complex needs. Satellite centres, for example, chemotherapy service, palliative care as well as ambulatory surgery will be considered at TSWH to improve the accessibility of medical services for local residents in Yuen Long.

CPH will continue to provide comprehensive psychiatric services for the Cluster and forensic psychiatry for the whole territory. It will also lead the development of community psychiatric services on mental health services in NTWC. SLH will continue its unique role as the service provider for territory wide comprehensive infirmary and rehabilitation services for patients with severe and profound intellectual disability. However, NTWC should initiate the discussion to review its service model in view of the changing need of this group of patients.

Overall, formulation of the strategies and clinical service directions has taken into account the challenges the Cluster is facing and builds on the existing flagship services in NTWC. It capitalises on the wisdom, professionalism and expertise of the staff, as well as the strong traditions in engaging the community partners for serving its population. With the new perspectives generated through the NTWC CSP, it is a golden opportunity for re-organising its services to meet the expanding and evolving healthcare needs of the local community. By doing so, we envision to transform the medical services of NTWC into an integrated health service network which provides quality and timely healthcare services for the residents in Tuen Mun and Yuen Long .

WAY FORWARD

Given the strong emphasis in NTWC CSP on service redesign, the key focus going forward will be the re-engineering of work flow and clinical pathway as well as the way services are delivered, such as expanding day services and the roles of nursing and AH in frontline clinical services. These may require a greater shift in culture and clinical practice. In line with these, many CWGs have proposed developing standard protocols for patient care in their respective clinical service programmes. Riding on the momentum for change that has been built up, ongoing discussions should be continued to work out the detailed action plans to implement the CWG proposals.

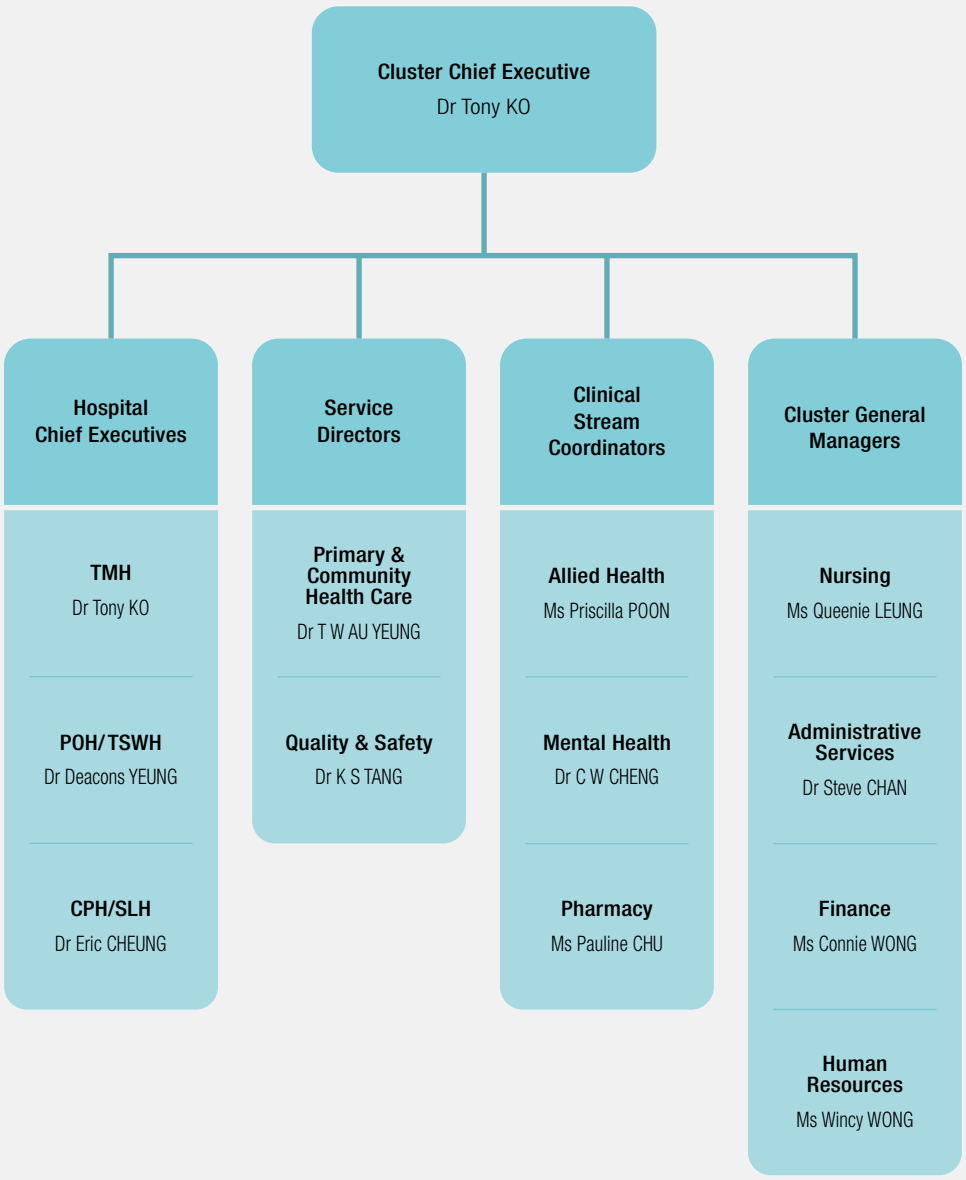
In order to make these happen, a cluster-based committee involving the CCE and senior staff of the Cluster should be set up to oversee the implementation of the CSP. This includes promulgation to staff and stakeholders, as well as executing, monitoring and reviewing the implementation of the recommended strategies and service models.

Staff engagement is the key to success for the implementation of the CSP as they are planners and custodians of the clinical strategies. Their professionalism, commitment and enthusiasm will help turn the strategies into reality.

Abbreviations

A&E	Accident and Emergency
ADCC	Ambulatory Day Care Centre
AH	Allied Health
CGAS	Community Geriatric Assessment Services
CHC	Community Health Centre
CNS	Community Nursing Service
COS	Chief of Service
CPH	Castle Peak Hospital
CSP	Clinical Services Plan
CWG	Clinical Work Group
EDU	Electro-diagnostic Unit
ENT	Ear-Nose-Throat
FM	Family Medicine
GDH	Geriatric Day Hospital
GOPC	General Out-patient Clinic
HA	Hospital Authority
HAHO	Hospital Authority Head Office
HDU	High Dependency Unit
HKCH	Hong Kong Children's Hospital
ICU	Intensive Care Unit
MDP	Master Development Plan
NGO	Non-government Organisation
NTWC	New Territories West Cluster
OT	Operating Theatre
POH	Pok Oi Hospital
PRC	Patient Resource Centres
RCHE	Residential Care Homes for the Elderly
SLH	Siu Lam Hospital
SOPC	Specialist Out-patient Clinic
TMEC	Tuen Mun Eye Centre
TMH	Tuen Mun Hospital
TSWH	Tin Shui Wai Hospital

Appendix 1:
Current Organisational Structure



As at April 2017

Appendix 2: Summary of Current Services

TUEN MUN HOSPITAL

Clinical Services

- Accident & Emergency
- Anaesthesia & Intensive Care
- Child & Adolescent Mental Health Centre
- Clinical Oncology
- Clinical Pathology
- Community Nursing Service
- Ear, Nose & Throat
- Medicine & Geriatrics
- Neurosurgery
- Obstetrics & Gynaecology
- Ophthalmology
- Orthopaedics & Traumatology
- Paediatrics & Adolescent Medicine
- Radiology & Nuclear Medicine
- Rehabilitation Services
- Primary & Community Health Care
- Surgery

Allied Health Services

- Clinical Psychology Service
- Dietetic Service
- Occupational Therapy
- Pharmacy

- Physiotherapy
- Podiatry
- Prosthetic & Orthotic Services
- Speech Therapy
- Buddhist Spiritual Care Service
- Catholic Pastoral Care Unit
- Christian Chaplaincy Unit
- Community Services Centre
- Hong Kong Red Cross Hospital School
- Hong Kong Red Cross Mobility Equipment Loan & Library Services
- Medical Social Services

POK OI HOSPITAL

Clinical Services

- Accident & Emergency
- Ambulatory Services Centre
- Anaesthesia & Intensive Care
- Clinical Pathology
- Community Nursing Service
- Community Psychiatric Service
- Ear, Nose & Throat
- Family Medicine
- Gynecology
- Infirmary Service
- Medicine & Geriatrics
- Ophthalmology
- Orthopaedics & Traumatology
- Radiology
- Surgery

Allied Health Services

- Clinical Psychology Service
- Dietetic Service
- Medical Social Services
- Occupational Therapy
- Pharmacy
- Physiotherapy
- Podiatry
- Prosthetic & Orthotic Services
- Speech Therapy
- Catholic Pastoral Care Unit
- Christian Chaplaincy Unit
- Patient Resources Centre

CASTLE PEAK HOSPITAL

Clinical Services

- Alcohol Treatment Service
- Child & Adolescent Psychiatric Service
- Community Psychiatric Service
- Forensic Psychiatric Service
- General Adult Psychiatric Service
- Old Age Psychiatric Service
- Psychiatric Service for Intellectual Disability
- Substance Abuse Service
- The Early Assessment Service for Young People with Psychosis (E.A.S.Y.) Service

Allied Health Services

- Clinical Psychology Service
- Dietetic Service
- Medical Social Service
- Occupational Therapy
- Pharmacy

- Physiotherapy
- Catholic Pastoral Care Unit
- Christian Hospital Chaplaincy
- Hong Kong Red Cross Hospital School
- Hong Kong Red Cross Patient Caring Programme
- Hong Kong Red Cross Patient Library Service

SIU LAM HOSPITAL

Clinical Services

- Mental Handicap Infirmary Service

Allied Health Services

- Dietetic Service
- Medical Social Service
- Occupational Therapy
- Pharmacy
- Physiotherapy
- Prosthetic & Orthotic Services
- Christian Hospital Chaplaincy
- Hong Kong Red Cross Patient Caring Programme

TIN SHUI WAI HOSPITAL

Clinical Services

- Accident & Emergency
- Clinical Pathology
- Community Nursing Service
- Family Medicine
- Infection Control Unit
- Medicine & Geriatrics
- Nursing Services Division
- Orthopaedics & Traumatology
- Radiology

- Specialist Out-Patient Department

Allied Health & Other Services

- Dietetic Service
- Occupational Therapy
- Pharmacy
- Physiotherapy
- Prosthetic & Orthotic Services
- Speech Therapy

Appendix 3: Project Structure & Governance

NTWC CSP PROJECT COMMITTEE (MARCH 2016 TO MAY 2017)

TERMS OF REFERENCE

- To plan and guide the development of the Clinical Services Plan for the New Territories West Cluster
- To analyse, scrutinise and advise on the principles, assumptions, models of care, capacity planning and key recommendations proposed in the development of the Clinical Services Plan
- To receive the report generated by the external consultancy and produce a final CSP for consideration by members of the Directors' Meeting and Medical Services Development Committee

MEMBERSHIP

Co-chairs

Dr Tony KO	Cluster Chief Executive, NTWC / Hospital Chief Executive, TMH
Dr S V LO	Director (Strategy & Planning), HAHO (up to October 2016)
Dr Libby LEE	Director (Strategy & Planning), HAHO (from November 2016)

Members

Mr William CHAN	Chairperson, TMH Hospital Governing Committee
Mrs Winnie TAM KEUNG	Chairperson, POH Hospital Governing Committee (up to March 2016)
Mrs Lei CHAN LI	Chairperson, POH Hospital Governing Committee (from April 2016)
Mr Bing Woon CHAN	Chairperson, CPH/SLH Hospital Governing Committee
Mr Huen WONG	Chairperson, TSWH Hospital Governing Committee (from July 2016)
Dr Simon TANG	Deputy Hospital Chief Executive, TMH / Chief of Service (Accident & Emergency), TMH & POH
Dr Deacons YEUNG	Hospital Chief Executive, POH & TSWH
Dr Eric CHEUNG	Hospital Chief Executive, CPH & SLH / Consultant (General Adult Psychiatry), CPH
Dr C K MOK	Cluster Coordinator (Medicine & Geriatrics), NTWC / Chief of Service (Medicine & Geriatrics), TMH

Dr S K LEUNG	Cluster Coordinator (Quality & Safety), NTWC / Deputy Chief of Service (Surgery), TMH & POH
Mr Siu Lam YUEN	Patient Representative
Mr M K CHAN	Cluster General Manager (Nursing), NTWC / General Manager (Nursing), TMH (up to August 2016)
Ms Queenie LEUNG	Cluster General Manager (Nursing), NTWC / General Manager (Nursing), TMH (from September 2016)
Dr Steve CHAN	Cluster General Manager (Administrative Services), NTWC / General Manager (Administrative Services), TMH & POH
Dr Libby LEE	Chief Manager (Strategy, Service Planning & Knowledge Management), HAHO (up to October 2016)
Dr Leo WAT	Chief Manager (Strategy, Service Planning & Knowledge Management), HAHO
Mr Donald LI	Chief Manager (Capital Planning), HAHO
Ms Eva TSUI	Chief Manager (Statistics & Workforce Planning), HAHO

Secretary

Mr Sunny LAM	Manager (Planning & Performance), NTWC (up to November 2016)
Ms Louisa LEUNG	Senior Nursing Officer (Nursing Services Division), POH & TSWH (from November 2016)

NTWC CSP ADVISORY PANEL (JUNE 2016 TO OCTOBER 2016)

TERMS OF REFERENCE

- To review, comment and provide advice to the Project Committee in the development of the Clinical Services Plan for the New Territories West Cluster
- To review and provide expert comment and feedback to the Project Committee on the key observations and recommendations proposed by the external consultancy on the Clinical Services Plan for the New Territories West Cluster

MEMBERSHIP

Co-Convenors

Dr S V LO	Director (Strategy & Planning), HAHO
Dr Tony KO	Cluster Chief Executive, NTWC / Hospital Chief Executive, TMH

Members

Prof T F FOK	Vice-president, Hong Kong Academy of Medicine
Prof Joseph LUI	Professor of Administrative Medicine Practice, the University of Hong Kong / Former Cluster Chief Executive, Kowloon East Cluster
Dr Sylvia FUNG	Senior Advisor to President and Professor of Health Services Management, Tung Wah College / Former Chief Manager (Nursing), HAHO
Mr Charlie YIP	Vice-president, Hong Kong Liver Transplant Patients' Association / Member, Executive Committee, Hong Kong Alliance of Patients' Organisations Limited / Honorary Treasurer, Rotary Club of Hong Kong Sunrise / Board Member, HA / Member, Hospital Governing Committee, TMH
Dr Libby LEE	Chief Manager (Strategy, Service Planning & Knowledge Management), HAHO

NTWC CSP PLANNING TEAM

NTWC

Dr Simon TANG	Deputy Hospital Chief Executive, TMH & Chief of Service (Accident & Emergency), NTWC
Dr K S TANG	Service Director (Quality & Safety), NTWC / Honorary Consultant (Anaesthesia & Intensive Care), NTWC
Dr Jasperine HO	Cluster Coordinator (Quality & Safety), NTWC / Associate Consultant (Anaesthesia & Intensive Care), TMH
Dr Paulina CHOW	Associate Consultant, Old Age Psychiatry, CPH
Dr Steve CHAN	Cluster General Manager (Administrative Services), NTWC / General Manager (Administrative Services), TMH & POH
Ms Louisa LEUNG	Senior Nursing Officer (Nursing Services Division), POH & TSWH
Mr Sunny LAM	Manager (Planning & Performance), NTWC (up to November 2016)

HAHO

Dr Libby LEE	Chief Manager (Strategy, Service Planning & Knowledge Management), HAHO (up to October 2016)
Dr Leo WAT	Chief Manager (Strategy, Service Planning & Knowledge Management), HAHO
Dr Flora TSANG	Senior Manager (Strategy & Service Planning), HAHO
Mr Raymond LI	Manager (Strategy & Service Planning), HAHO
Ms Stefanie TANG	Manager (Strategy & Service Planning), HAHO
Ms Ellen WU	Executive Assistant (Strategy & Service Planning), HAHO

NTWC CLUSTER MEDICAL SERVICES COMMITTEE

TERMS OF REFERENCE

- To update members on new policies and major operational matters of the Head Office
- To seek members' input on major initiatives including strategic planning, annual planning, and major project planning and development
- To facilitate communication and sharing of information and experience between departments
- To discuss and suggest solutions to problems arising from department operation

MEMBERSHIP

Chairman

Dr Tony KO	Cluster Chief Executive, NTWC / Hospital Chief Executive, TMH

Members

Dr Deacons YEUNG	Hospital Chief Executive, POH & TSWH
Dr Eric CHEUNG	Hospital Chief Executive, CPH & SLH / Consultant, General Adult Psychiatry, CPH
Dr Y TUNG	Deputy Hospital Chief Executive, TMH / Chief of Service (Oncology), TMH
Dr Simon TANG	Deputy Hospital Chief Executive, TMH / Chief of Service (Accident & Emergency), TMH & POH
Dr K C AU YEUNG	Chief of Service (Obstetrics & Gynaecology), TMH & POH
Dr Y Y CHOW	Chief of Service (Orthopaedics & Traumatology), TMH & POH
Dr N S KWONG	Chief of Service (Paediatrics & Adolescent Medicine), TMH & POH / Commissioning Service Co-ordinator (Neonatology), HKCH
Dr C S LAM	Chief of Service (Medicine & Geriatrics), POH
Dr K K LAM	Chief of Service (Anaesthesia & Intensive Care), TMH & POH
Dr J LIANG	Cluster Coordinator (Family Medicine & Primary Healthcare), NTWC / Chief of Service (Family Medicine & Primary Healthcare), NTWC
Dr M LAM	Chief of Service (General Adult Psychiatry), CPH
Dr S M LAM	Chief of Service (Child & Adolescent Psychiatry), CPH
Dr S W LI	Chief of Service (Old Age Psychiatry), CPH
Dr C W MAN	Chief of Service (Surgery), TMH & POH (up to Jan 2017) Consultant (Surgery), TMH & POH (from Feb 2017)
Dr C K MOK	Cluster Coordinator (Medicine & Geriatrics), NTWC / Chief of Service (Medicine & Geriatrics), TMH
Dr T L QUE	Chief of Service (Clinical Pathology), TMH & POH

Dr Bonnie SIU	Chief of Service (Psychiatry), Forensic Psychiatry, CPH
Dr Y C WONG	Chief of Service (Radiology & Nuclear Medicine), TMH & POH
Dr K Y YAM	Chief of Service (Neurosurgery), TMH
Dr K W YEUNG	Chief of Service (Ear, Nose & Throat), TMH & POH
Dr P F YIU	Chief of Service (Ophthalmology), TMH & POH

Appendix 4: Membership of Clinical Work Groups

CWG (CANCER SERVICES)

Chair / Co-chair

Dr C C CHEUNG	Consultant (Surgery), TMH
Dr C S WONG	Cluster Coordinator (Quality & Safety), NTWC / Consultant (Oncology), TMH

Members

Ms C Y CHAN	Ward Manager (Oncology), TMH
Ms Rainbow CHAN	Prosthetist-Orthotist I (Prosthetic-Orthotic), TMH
Ms Teresa CHAN	Ward Manager (Oncology), TMH
Ms Anne CHANG	Occupational Therapist I (Cluster Coordinator / Team Head), TMH
Dr K K CHEUNG	Consultant (Orthopaedics & Traumatology), TMH
Ms Penny CHOI	Dietitian (Dietetic), TMH
Dr W K CHOI	Consultant (Surgery), TMH
Dr S K CHU	Consultant (Surgery), TMH
Dr Andrew HO	Associate Consultant (Medicine & Geriatrics), TMH
Dr Candace HO	Cluster Coordinator (Clinical Psychology - General Medical Services), NTWC / Senior Clinical Psychologist (Psycho-behavioural Unit), TMH
Dr H F HUI	Consultant (Obstetrics & Gynaecology), TMH
Dr Lawrence LAI	Cluster Coordinator (Quality & Safety), NTWC / Consultant (Medicine & Geriatrics), POH
Ms Moria LAM	Speech Therapist (Speech Therapy), POH
Ms Y M LAM	Department Operations Manager (Cluster Coordinator), NTWC
Ms Eliza LAU	Ward Manager (Oncology), TMH
Mr William LAW	Nurse Specialist (Oncology), TMH
Dr A S LEE	Associate Consultant (Oncology), TMH

Dr Cathy LEE	Associate Consultant (Diagnostic Radiology), TMH
Ms Joyce LEUNG	Senior Physicist (Oncology), TMH
Dr J LIANG	Cluster Coordinator (Family Medicine & Primary Healthcare) & Chief of Service (Family Medicine & Primary Healthcare), NTWC
Dr S H LO	Consultant (Oncology), TMH
Ms Salina LO	Department Operations Manager (Surgery / Electrodiagnostic Unit), TMH
Mr Brian MA	Senior Physiotherapist (Physiotherapy), TMH
Dr S M MAK	Consultant (Clinical Pathology), TMH
Dr T Y NG	Associate Consultant (Oncology), TMH
Dr W Y NG	Associate Consultant (Oncology), TMH
Ms King Yuk PANG	Medical Social Worker (Medical Social Services), POH
Dr K M SIN	Consultant (Medicine & Geriatrics), TMH
Dr W K SZE	Consultant (Oncology) & Head (Palliative Care and Hospice Service), TMH
Dr K H THUNG	Consultant (Surgery), TMH
Dr Cyrus TSE	Associate Consultant (Surgery), TMH
Dr Y TUNG	Deputy Hospital Chief Executive & Chief of Service (Oncology), TMH
Dr Kevin WONG	Associate Consultant (Surgery), TMH
Mr M C WONG	Department Operations Manager (Oncology / Diagnostic Radiology & Nuclear Medicine), TMH
Mr Thomas WONG	Department Manager (Oncology), TMH
Dr Y C WONG	Chief of Service (Diagnostic Radiology & Nuclear Medicine), TMH & POH
Dr K Y YAM	Chief of Service (Neurosurgery), TMH
Dr K W YEUNG	Chief of Service (Ear, Nose & Throat), TMH& POH
Dr S F YIP	Consultant (Medicine & Geriatrics), TMH / Conjoint Haematology Team Head (Medicine & Geriatrics / Clinical Pathology)
Ms Grace YOUNG	Senior Pharmacist (Pharmacy), NTWC
Dr H Y YUEN	Consultant (Surgery), TMH

CWG (CARDIAC SERVICES)

Chair / Co-chair

Dr C S LAM	Chief of Service (Medicine & Geriatrics), POH
Dr P W YAM	Deputy Chief of Services (Medicine & Geriatrics), TMH

Members

Mr Andrew AUW YANG	Senior Physiotherapist (Physiotherapy), TMH
Dr Arthur CHAN	Associate Consultant (Medicine & Geriatrics), TMH
Dr L CHAN	Associate Consultant (Family Medicine & Primary Healthcare), POH
Ms S C CHAN	Registered Nurse (Medicine & Geriatrics), POH
Dr Y H CHAN	Associate Consultant (Medicine & Geriatrics), POH
Mr T M CHENG	Ward Manager (Anaesthesia & Intensive Care), POH
Dr C H CHOI	Associate Consultant (Medicine & Geriatrics), POH
Dr Eddie CHOW	Consultant (Medicine & Geriatrics), TMH
Mr L P LAI	Nurse Consultant (Cardiac Care), NTWC
Dr H LAM	Associate Consultant (Medicine & Geriatrics), TMH
Ms Y LEE	Ward Manager (Medicine & Geriatrics), TMH
Dr Allen LI	Consultant (Diagnostic Radiology & Nuclear Medicine), TMH
Ms Salina LO	Department Operations Manager (Surgery / Electrodiagnostic Unit), TMH
Dr Frank TAM	Consultant (Medicine & Geriatrics), TMH
Dr Simon TANG	Deputy Hospital Chief Executive, TMH / Chief of Service (Accident & Emergency), TMH & POH
Ms Cynthia WONG	Occupational Therapist I (Occupational Therapy), POH
Dr Y C WONG	Chief of Service (Diagnostic Radiology & Nuclear Medicine), TMH & POH

CWG (CARE FOR THE ELDERLY)

Chair / Co-chair

Dr T W AU YEUNG	Service Director (Primary & Community Healthcare), NTWC / Consultant (Medicine & Geriatrics), POH
Dr C K MOK	Cluster Coordinator (Medicine & Geriatrics), NTWC / Chief of Service (Medicine & Geriatrics), TMH

Members

Dr C F CHAN	Associate Consultant (Old Age Psychiatry), CPH
Ms Emily CHEUK	Centre Head (Community Services Centre), NTWC
Ms May CHEUNG	Speech Therapist in-charge (Speech Therapy), POH
Ms Y L CHEUNG	Department Operations Manager (Medicine & Geriatrics Rehabilitation), TMH
Ms Carol CHIU	Prosthetist-Orthotist II (Prosthetic-Orthotic), TMH

Dr Paulina CHOW	Associate Consultant (Old Age Psychiatry), CPH
Mr Eric FUNG Yan Shing	Senior Occupational Therapist in-charge (Occupational Therapy), POH
Dr Jeffrey FUNG	Deputy Chief of Service (Accident & Emergency), TMH & POH
Ms K L HO	Ward Manager (Community Care Division), TMH
Ms Joanne KOO	Dietitian in-charge (Dietetic), POH
Dr Y K KWAN	Consultant (Medicine & Geriatrics), TMH
Ms Natalie LAI	Occupational Therapist I, CPH
Ms Cindy LAM	Department Operations Manager (Medicine & Geriatrics), TMH
Ms Ellen LAM	Ward Manager (Rehabilitation), TMH
Ms Y M LAM	Department Operations Manager (Community Care), NTWC
Mr K W LAU	Ward Manager (Surgery), TMH
Dr S K LEUNG	Deputy Chief of Service (Surgery), TMH & POH
Dr J LIANG	Cluster Coordinator (Family Medicine & Primary Healthcare) & Chief of Service (Family Medicine & Primary Healthcare), NTWC
Ms Candy LIN	Medical Social Worker (Medical Social Services), POH
Ms S W LOK	Ward Manager (Medicine & Geriatrics), TMH
Ms Priscilla POON	Cluster Coordinator (Physiotherapy), NTWC / Department Manager (Physiotherapy), TMH
Ms Annabella SUEN	Senior Physiotherapist (Physiotherapy), TSWH
Mr Bembi TAM	Senior Nursing Officer (Nursing Services Division), TMH
Dr H F TSUI	Associate Consultant (Orthopaedics & Traumatology), TMH
Ms S L WAN	Nurse Consultant (Orthopaedics & Traumatology), NTWC
Ms Grace YOUNG	Senior Pharmacist (Pharmacy), NTWC

CWG (AMBULATORY CARE SERVICES)

Chair / Co-chair

Dr C Y WONG	Consultant (Surgery), TMH
Dr C Y YUNG	Consultant (Medicine & Geriatrics), POH

Members

Mr Calvin CHAN	Ward Manager (Ambulatory Services Centre / Electrodiagnostic Unit, Day Ward / Ambulatory Gynaecology Centre), POH
Dr Doris CHAN	Associate Consultant (Medicine & Geriatrics), POH

Mr C K CHEUNG	Deputise Department Manager (Diagnostic Radiology & Nuclear Medicine), NTWC
Ms Y L CHEUNG	Department Operations Manager (Medicine & Geriatrics Rehabilitation), TMH
Dr W Y CHIM	Associate Consultant (Medicine & Geriatrics), TMH
Dr S K CHU	Consultant (Surgery), TMH
Dr L Y HO	Associate Consultant (Medicine & Geriatrics), TMH
Dr C L LAU	Consultant (Accident & Emergency), TMH & POH
Dr C W LAU	Associate Consultant (Anaesthesia & Intensive Care), TMH
Dr Y F CHAN	Consultant (Orthopaedics & Traumatology), TMH
Dr H Y LAU	Consultant (Diagnostic Radiology), TMH
Ms Pinky LAU	Occupational Therapist I (Occupational Therapy), POH
Ms Louisa LEUNG	Senior Nursing Officer (Nursing Services Division), POH & TSWH
Ms Salina LO	Department Operations Manager (Surgery / Electrodiagnostic Unit), TMH
Mr Joshua MAK	Cluster Coordinator (Speech Therapy), NTWC
Ms Mandy MAK	Senior Physiotherapist (Physiotherapy), TMH
Mr Eddy KUNG	Senior Prosthetist-Orthotist (Prosthetic-Orthotic), TMH & POH
Ms Sandra SHING	Cluster Coordinator (Dietetic), NTWC
Ms K Y TO	Department Operations Manager (Ambulatory Services Centre / Mixed Specialty Wards), POH
Ms Y P WAN	Nurse Consultant (Stoma & Wound Care), NTWC
Ms W K WONG	Department Operations Manager (Special Out-patient Clinic), NTWC
Dr Y C WONG	Chief of Service (Diagnostic Radiology & Nuclear Medicine), TMH & POH
Dr K C AU YEUNG	Chief of Service (Obstetrics & Gynaecology), TMH & POH
Dr K W YEUNG	Chief of Service (Ear, Nose & Throat), TMH & POH
Dr S F YIP	Consultant (Medicine & Geriatrics) & Conjoint Haematology Team Head (Medicine & Geriatrics / Clinical Pathology), TMH
Dr H L YIU	Consultant (Surgery), TMH
Dr P F YIU	Chief of Service (Ophthalmology), TMH & POH

CWG (EMERGENCY SURGICAL SERVICES)

Chair / Co-chair

Dr H L WONG	Consultant (Orthopaedics & Traumatology), TMH
Dr H L YIU	Consultant (Surgery), TMH

Members

Dr K C AU YEUNG	Chief of Service (Obstetrics & Gynaecology), TMH & POH
Mr Andrew AUW YANG	Senior Physiotherapist (Physiotherapy), TMH
Dr Alfred CHAN	Associate Consultant (Anaesthesia & Intensive Care), TMH
Mr Calvin CHAN	Ward Manager (Ambulatory Services Centre / Electro-diagnostic Unit, DW, AGC), POH
Dr Y F CHAN	Consultant (Orthopaedics & Traumatology), TMH
Dr C C CHEUNG	Consultant (Surgery), TMH
Dr S Y CHEUNG	Associate Consultant (Clinical Pathology), TMH
Ms Alexandra FUNG	Occupational Therapist I (Occupational Therapy), POH
Ms W Y IP	Ward Manager (Ambulatory Services Centre / Mixed Specialty Wards), POH
Dr S K JAN	Consultant (Anaesthesia & Intensive Care), TMH
Dr Lawrence LAI	Cluster Coordinator (Quality & Safety) / POH Consultant (Medicine & Geriatrics), NTWC
Ms Helen LEUNG	Department Operations Manager (Operating Theatre), POH
Ms Louisa LEUNG	Senior Nursing Officer (Nursing Services Division), POH & TSWH
Dr Angela LI	Deputy Chief of Service (Diagnostic Radiology & Nuclear Medicine), NTWC
Ms Salina LO	Department Operations Manager (Surgery / Electro-diagnostic Unit), TMH
Ms W K NGAN	Deputy Department Operations Manager (Operating Theatre), TMH
Dr K L ONG	Consultant (Accident & Emergency), TMH & POH
Ms Sandra SHING	Cluster Coordinator (Dietetic), NTWC
Dr C S WONG	Cluster Coordinator (Quality & Safety) / TMH Consultant (Oncology), NTWC
Dr Y C WONG	Chief of Service (Diagnostic Radiology & Nuclear Medicine), TMH & POH
Mr Y C YEE	Ward Manager (Ambulatory Services Centre / Mixed Specialty Wards), POH

CWG (GASTROINTESTINAL SERVICES)

Chair / Co-chair

Dr Lawrence LAI	Cluster Coordinator (Quality and Safety), NTWC / Consultant (Medicine & Geriatrics), POH
Dr Michael POON	Consultant (Surgery), TMH

Members

Mr Calvin CHAN	Ward Manager (Ambulatory Services Centre / Electro-diagnostic Unit, Day Ward / Ambulatory Gynaecology Centre), POH
Ms P F CHAN	Advanced Practice Nurse (Surgery), TMH
Ms Jackie CHEN	Ward Manager (Electro-diagnostic Unit / Combined Endoscopy Centre / Surgical Day Ward), TMH
Dr C C CHEUNG	Consultant (Surgery), TMH
Ms Penny CHOI	Dietitian (Dietetic), TMH
Dr Jasperine HO	Cluster Coordinator (Quality & Safety), NTWC / Associate Consultant (Anaesthesia & Intensive Care), TMH
Dr W K LEE	TMH Consultant (Clinical Pathology), TMH
Dr S K LEUNG	Cluster Coordinator (Quality & Safety), NTWC / Deputy Chief of Service (Surgery), TMH & POH
Dr Michael LI	Consultant (Medicine & Geriatrics), TMH
Ms Cora LING	Speech Therapist (Speech Therapy), TMH
Dr Jimmy SIU	Consultant (Diagnostic Radiology), TMH
Dr K TSE	Consultant (Paediatrics & Adolescent Medicine), TMH
Dr C S WONG	Cluster Coordinator (Quality & Safety), NTWC / Consultant (Oncology), TMH
Ms Dilys WONG	Advanced Practice Nurse (Surgery), TMH
Mr H W WONG	Advanced Practice Nurse (Medicine & Geriatrics), TMH
Dr Y C WONG	Chief of Service (Diagnostic Radiology & Nuclear Medicine), TMH & POH
Dr H L YIU	Consultant (Surgery), TMH
Ms Grace YOUNG	Senior Pharmacist (Pharmacy), NTWC

CWG (MANAGEMENT OF CHRONIC DISEASES)

Chair / Co-chair:

Dr T W AU YEUNG	Service Director (Primary & Community Healthcare), NTWC / Consultant (Medicine & Geriatrics), POH
Dr M L CHAN	Associate Consultant (Family Medicine & Primary Healthcare), Tin Shui Wai (Tin Yip Road) Community Health Centre

Members

Dr Jeffrey CARNETT	Cluster Coordinator (Podiatry), NTWC
Dr Ronald CHENG	Associate Consultant (Family Medicine & Primary Healthcare), Madam Yung Fung Shee Health Centre
Ms Emily CHEUK	Centre Head (Community Service Centre), NTWC
Dr Cecilia CHEUNG	Associate Consultant (Family Medicine & Primary Healthcare), Tuen Mun Clinic
Ms Pauline CHU	Cluster Service Coordinator (Pharmacy), NTWC
Dr Jeffrey FUNG	Deputy Chief of Service (Accident & Emergency), TMH & POH
Dr Andrew HO	Associate Consultant (Medicine & Geriatrics), TMH
Ms Rita KONG	Community Health Centre in-charge, POH
Ms Joanne KOO	Dietitian in-charge (Dietetic), POH
Dr C S LAM	Chief of Service (Medicine & Geriatrics), POH
Ms Y M LAM	Department Operations Manager (Community Care), NTWC
Mr Eric LAW Yuen Tung	Department Manager (Physiotherapy), POH
Mr Joshua MAK	Cluster Coordinator (Speech Therapy), NTWC
Ms Mandy MAK	Senior Physiotherapist (Physiotherapy), TMH
Dr C K MOK	Cluster Coordinator (Medicine & Geriatrics), NTWC / Chief of Service (Medicine & Geriatrics), TMH
Ms Flora NG	Social Work Officer (Medical Social Services), TMH & POH
Dr M F NG	Associate Consultant (Medicine & Geriatrics), TMH
Ms Cindy PONG	Occupational Therapist I (Occupational Therapy), POH
Mr Joseph POON	Cluster Coordinator (Occupational Therapy), NTWC
Ms P C WONG	Registered Nurse (Ambulatory Services Centre / Mixed Specialty Wards), POH
Mr K WU	Prosthetist-Orthotist I (Prosthetic-Orthotic), TMH & POH
Dr Y C WUN	Cluster Coordinator (Quality & Safety), NTWC / Consultant (Orthopaedics & Traumatology), TMH

CWG (MENTAL HEALTH SERVICES)

Chair / Co-chair

Dr Eric CHEUNG	Hospital Chief Executive, CPH & SLH / Consultant (General Adult Psychiatry), CPH
Ms Jolene MUI	General Manager (Nursing), CPH & SLH

Members

Mr C Y CHAN	Ward Manager (General Adult Psychiatry), Consultation-Liaison, CPH
Dr Y H CHAN	Associate Consultant (Family Medicine & Primary Healthcare), Tin Shui Wai (Tin Yip Road) Community Health Centre
Dr C W CHENG	Cluster Service Coordinator (Mental Health), NTWC / Consultant (General Adult Psychiatry), CPH
Dr K M CHENG	Cluster Coordinator (Quality & Safety), NTWC / Consultant (General Adult Psychiatry), CPH
Dr William CHUI	Associate Consultant (General Adult Psychiatry), CPH
Dr Paulina CHOW	Associate Consultant (Old Age Psychiatry), CPH
Dr Karen HUNG	Associate Consultant (General Adult Psychiatry), CPH
Dr N S KWONG	Chief of Service (Paediatrics & Adolescent Medicine), TMH & POH
Dr M LAM	Chief of Service (General Adult Psychiatry), CPH
Mr Eddie LEE	Speech Therapist (Speech Therapy), TMH
Mr K T LEUNG	Nurse Consultant (Community Psychiatric Service), CPH
Ms Cycbie MOK	Department Manager (Occupational Therapy), CPH
Dr K L ONG	Consultant (Accident & Emergency), TMH & POH
Ms Ann PANG	Department Operations Manager (General Adult Psychiatry), CPH
Ms Priscilla POON	Cluster Coordinator (Physiotherapy), NTWC / TMH Department Manager (Physiotherapy)
Ms Denise TSANG LAW	Cluster Coordinator (Clinical Psychology-Mental Health Service) / Senior Clinical Psychologist, CPH
Dr Kenny WONG	Associate Consultant (Medicine & Geriatrics), TMH
Mr Kenneth YEUNG	Dietitian in-charge, CPH

CWG (MUSCULOSKELETAL SERVICES)

Chair / Co-chair

Dr C Y LAM	Consultant (Orthopaedics & Traumatology), TMH
Dr C C MOK	Consultant (Medicine & Geriatrics), TMH

Members

Dr Jeffrey CARNETT	Cluster Coordinator (Podiatry), NTWC
Dr P T CHAN	Consultant (Orthopaedics & Traumatology), TMH
Dr W S CHAN	Deputy Chief of Service (Anaesthesia & Intensive Care), TMH & POH
Dr Eddie CHOW	Consultant (Medicine & Geriatrics), TMH
Dr C K CHU	Associate Consultant (Medicine & Geriatrics), TMH
Ms Winnie FOK	Occupational Therapist I (Occupational Therapy), TMH
Dr Andrew HO	Associate Consultant (Medicine & Geriatrics), TMH
Ms Mavis LAU	Prosthetist-Orthotist I (Prosthetic-Orthotic), TMH
Dr K S LEUNG	Senior Medical Officer (Medicine & Geriatrics), TMH
Dr Angela LI	Deputy Chief of Service (Diagnostic Radiology & Nuclear Medicine), NTWC
Ms Priscilla POON	Cluster Coordinator (Physiotherapy), NTWC / Department Manager (Physiotherapy), TMH
Dr K S TANG	Service Director (Quality & Safety) & Honorary Consultant (Anaesthesia & Intensive Care), NTWC
Mr S S SO	Department Operations Manager (Orthopaedics & Traumatology), TMH
Dr C H TO	Associate Consultant (Medicine & Geriatrics) & Cluster Coordinator (Quality & Safety), POH
Dr Y C WONG	Chief of Service (Diagnostic Radiology & Nuclear Medicine), TMH & POH

CWG (NEUROSCIENCE SERVICES)

Chair

Dr K Y YAM	Chief of Service (Neurosurgery), TMH

Members

Dr W K CHAK	Associate Consultant (Paediatrics & Adolescent Medicine), TMH
Dr Eric CHAN	Associate Consultant (Medicine & Geriatrics), TMH
Ms Nerita CHAN	Senior Physiotherapist (Physiotherapy), TMH
Ms Y L CHOW	Advanced Practice Nurse (Medicine & Geriatrics), TMH

Dr C K CHU	Associate Consultant (Medicine & Geriatrics), TMH
Dr Michael FU	Associate Consultant (Medicine & Geriatrics), TMH
Dr N S KWONG	Chief of Service (Paediatrics & Adolescent Medicine), TMH & POH
Dr K K LAM	Chief of Service (Anaesthesia & Intensive Care), TMH & POH
Mr Andy LAU	Senior Occupational Therapist (Occupational Therapy), TMH
Mr C M MAK	Department Operations Manager (Intensive Care Unit), TMH & POH / Department Operations Manager (Neurosurgery), TMH
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Dr K L SHIU	Associate Consultant (Medicine & Geriatrics), POH
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Dr Y C WONG	Chief of Service (Diagnostic Radiology & Nuclear Medicine), TMH & POH
Dr T W YEUNG	Associate Consultant (Diagnostic Radiology), TMH
Mr W H YUEN	Ward Manager (Medicine & Geriatrics), POH

CWG (PERI-OPERATIVE SERVICES)

Chair / Co-chair

Dr C P CHENG	Consultant (Anaesthesia & Intensive Care), TMH
Dr S K LEUNG	Cluster Coordinator (Quality and Safety), NTWC / Deputy Chief of Service (Surgery), TMH & POH

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Dr W M KWAN	Cluster Coordinator (Quality & Safety), NTWC / Consultant (Anaesthesia & Intensive Care), TMH
Dr Y K KWAN	Consultant (Medicine & Geriatrics), TMH
Dr C W LAU	Associate Consultant (Anaesthesia & Intensive Care), TMH
Dr C C LEE	Resident (Surgery), TMH
Ms M Y LEE	Ward Manager (Surgery), TMH
Dr Louise LEUNG	Consultant (Obstetrics & Gynaecology), TMH
Dr Vincent LEUNG	Associate Consultant (Ear, Nose & Throat), TMH
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Ms Sandra SHING	Cluster Coordinator (Dietetic), NTWC
Dr K TSANG	Associate Consultant (Ophthalmology), TMH
Dr Kevin WONG	Associate Consultant (Surgery), TMH
Ms K Y WU	Advanced Practice Nurse (Ambulatory Care Centre), TMH
Mr S K YAU	Registered Nurse (Operating Theatre), TMH
Dr S C YUEN	Consultant (Neurosurgery), TMH

CWG (TRAINING)

Chair / Co-chair

Mr K M LEE	Principal, School of General Nursing, TMH
Dr K S TANG	Service Director (Quality & Safety) & Honorary Consultant (Anaesthesia & Intensive Care), NTWC

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Mr K T CHOY	Senior Nursing Officer (Nursing Services Division), TMH
Ms Pauline CHU	Cluster Service Coordinator (Pharmacy), NTWC
Dr C W KAM	Director (Clinical Skills Training Centre), NTWC / Consultant (Accident & Emergency), TMH

Mr M S LAM	Senior Nursing Officer (Nursing Services Division), TMH
Mr Raymond LAM	Cluster Service Coordinator (Allied Health) & Cluster Coordinator (Prosthetic-Orthotic), NTWC
Dr S M LAM	Chief of Service (Child and Adolescent Psychiatry), CPH
Ms Queenie LEUNG	Cluster General Manager (Nursing), NTWC
Mr Joshua MAK	Cluster Coordinator (Speech Therapy), NTWC
Ms Ellen NG	Senior Human Resources Manager (Team A Nursing and Allied Health Staff), NTWC
Dr M F NG	Associate Consultant (Medicine & Geriatrics), TMH
Dr Y P NG	Associate Consultant (Medicine & Geriatrics), POH
Ms Sandra SHING	Cluster Coordinator (Dietetic), NTWC
Ms AnnaBella SUEN	Senior Physiotherapist (Physiotherapy), TSWH
Mr C Y WONG	Senior Nursing Officer (Nursing Services Division), POH

CWG (PAEDIATRIC SERVICES)

Chair

Dr N S KWONG	Chief of Service (Paediatrics & Adolescent Medicine), TMH & POH / Commissioning Service Co-ordinator (Neonatology), HKCH

Members

Ms Nerita CHAN	Senior Physiotherapist (Physiotherapy), TMH
Ms Rainbow CHAN	Prosthetist-Orthotist I (Prosthetic-Orthotic), TMH
Ms Alice CHAU	Department Operations Manager (Paediatrics & Adolescent Medicine), TMH
Ms Emily CHEUK	Centre Head (Community Service Centre), NTWC
Dr C C CHEUNG	Consultant (Surgery), TMH
Dr K Y CHOI	Senior Medical Officer (Orthopaedics & Traumatology), TMH
Dr Jasperine HO	Cluster Coordinator (Quality & Safety), NTWC / Associate Consultant (Anaesthesia & Intensive Care), TMH
Dr Tony HO	Clinical Psychologist (Psycho-behavioural Unit), TMH
Dr S Y LAM	Deputy Chief of Service (Paediatrics & Adolescent Medicine), TMH & POH
Ms Y M LAM	Department Operations Manager (Community Care), NTWC
Dr C L LAU	Consultant (Accident & Emergency), TMH & POH
Dr H Y LAU	Consultant (Diagnostic Radiology), TMH
Mr Joshua MAK	Cluster Coordinator (Speech Therapy), NTWC

Ms Flora NG	Social Work Officer (Medical Social Services), TMH & POH
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Dr Michael POON	Consultant (Surgery), TMH
Dr T L QUE	Chief of Service (Clinical Pathology), TMH & POH
Ms Helen SHIAO	Senior Dietitian (Dietetic), TMH
Dr Venus TAM	Associate Consultant Child and Adolescent Psychiatry, CPH
Dr S T WONG	Consultant (Neurosurgery), TMH
Dr Y C WONG	Chief of Service (Diagnostic Radiology & Nuclear Medicine), TMH & POH
Dr T W YEUNG	Associate Consultant (Diagnostic Radiology), TMH
Ms Melva YIP	Occupational Therapist I (Occupational Therapy), TMH

CWG (RESPIRATORY DISEASES)

Chair

Dr K M SIN	Consultant (Medicine & Geriatrics), TMH

Members

Mr Andrew AUW YANG	Senior Physiotherapist (Physiotherapy), TMH
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Dr K C LEE	Associate Consultant (Oncology), TMH
Dr K T LOO	Consultant (Clinical Pathology), TMH
Ms C E TAI	Advanced Practice Nurse (Medicine & Geriatrics), TMH
Dr K H THUNG	Consultant (Surgery), TMH
Dr W S WAN	Associate Consultant (Diagnostic Radiology), TMH
Dr Y C WONG	Chief of Service (Diagnostic Radiology & Nuclear Medicine), TMH & POH

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