醫院管理局
HOSPITAL AUTHORITY

CLINICAL SERVICES PLAN for the

Kowloon Central Cluster

九龍醫院 KOWLOON HOSPITAL

About This Plan

The purpose of the Clinical Services Plan for the Kowloon Central Cluster is to provide an overarching clinical strategy to align and inform the future service developments and roles of the hospitals and facilities in KCC and to facilitate and guide the development of the new acute hospital in the Kai Tak Development Area.

CONTENT

Foreword by Chairman

In the 2014 Policy Address, the Hong Kong Special Administrative Region Government committed to construct a new acute hospital in the Kai Tak Development Area (KTDA). The Hospital Authority (HA) is delighted to receive staunch support from the Government in providing quality and effective healthcare services for the population. Subsequently in 2015, the Steering Committee on Review of HA also recommended that the existing cluster organization in the Kowloon region should be re-examined to better serve our patients with continuity of care in their residential vicinity. We believe that the decisions from the Government presents Kowloon Central Cluster (KCC) with golden opportunities to leverage synergy from hospitals in meeting the escalating demand and better serving the healthcare needs for local communities. In this connection, the development of this Clinical Services Plan (CSP) was set forth to provide an overarching clinical strategy for KCC to facilitate and guide the development of the new acute hospital, as well as to describe the future service development and roles of hospitals.

The provision of the number of beds is estimated at around 2,400 for the new acute hospital, reaching the highest number among all local healthcare institutions. The acute hospital will provide a full range of services, and will also be a designated centre for trauma, neuroscience as well as cancer services. The new acute hospital will also support the adjacent Hong Kong Children's Hospital, which is a specialty hospital set to commence providing territory-wide paediatric services in 2018. The relocation of clinical services from Queen Elizabeth Hospital to the new acute hospital would also pave the way for the redevelopment of the vacated site at King's Park, according to the service needs of the whole Hong Kong.

This CSP has shed light on the Cluster's future service arrangement in view of the construction of a new acute hospital and cluster boundary revision. I am gratified that HA is presented with this unique opportunity for planning of this new acute hospital in Hong Kong, thus the formulation of this CSP to guide Cluster's future service development. It is through the collective commitment and immense support from HA Board, Hospital Governing Committees and Cluster colleagues 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 KCC.

Prof John LEONG Chi-yan
Chairman
Hospital Authority

Foreword by Chief Executive

With the dedicated commitment and concerted efforts from our healthcare professionals, this Clinical Services Plan (CSP) for the Kowloon Central Cluster (KCC) was formulated to serve as the blueprint for the development of a new acute hospital in Kai Tak Development Area, and the vision of the highly integrated clinical services of the new KCC in the many years to come.

Concurrent to the process of the development of the KCC CSP, the Steering Committee on Review of Hostipal Authority (HA) recommended that the administrative boundaries of the Kowloon Clusters should be refined in order to maximise coherence on vertical integration of services to ensure continuity of care for our patients. In response, HA has re-grouped Wong Tai Sin district and Mong Kok area to KCC, and therefore delineating Kwong Wah Hospital, Tung Wah Group of Hospitals Wong Tai Sin Hospital and Our Lady of Maryknoll Hospital from Kowloon West Cluster to KCC to support the new KCC catchment districts.

After thorough consultation process in KCC and the neighboring Kowloon Clusters, the clinical strategies and service models presented in this CSP are the visions of our devoted colleagues, and we believe that they would make great strides towards highly integrated and patient-centred approaches to care. This will also be supported by the re-organisation and re-alignment of service developments for the new service network of hospitals in KCC, underpinning the delivery of seamless and continuum of care for patients in the neighboring districts.

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 Clinical Services Plan for the Kowloon Central Cluster (KCC) 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 of service directions and roles of the hospitals of the new KCC after the re-grouping exercise, guiding the service profile and physical design of the new acute hospital in the Kai Tak Development Area (KTDA).

The hallmark of the Cluster's future vision focuses on the management of the continuum of care and integrated collaboration among the hospitals in the Kowloon region, including the three hospitals that are recently re-grouped to KCC. With the completion of a major acute hospital in the KTDA for KCC, patients will receive seamless care, from acute services through to community care, under the integrated service delivery model.

Service networks and collaboration among Cluster's hospitals were re-examined to ensure the provision of comprehensive care and easy access for patients. Clinical services will be re-aligned across hospitals to bring about optimal arrangement and improved standards of 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 Albert LO

Cluster Chief Executive, Kowloon Central Cluster
Hospital Chief Executive, Queen Elizabeth Hospital

Dr Libby LEE

Director, Strategy & Planning Division,
Hospital Authority Head Office

Executive Summary

The purpose of the Clinical Services Plan (CSP) for the Kowloon Central Cluster (KCC) is to provide an overarching clinical strategy to align and inform the future service developments and roles of the hospitals and facilities in KCC and to facilitate and guide the development of the new acute hospital in the Kai Tak Development Area (KTDA).

This report presented the first two phases of CSP formulation. Phase One focused on the future service directions of KCC in general, and the service provision and concept design of the new acute hospital at Kai Tak. This will inform the physical design of the new acute hospital. Phase Two described the role delineation of hospitals in KCC and nearby areas, taking into consideration the outcome of the Hospital Authority (HA) Review as well as service planning in the neighbouring Kowloon East Cluster (KEC). Once the clinical services of Queen Elizabeth Hospital (QEH) are relocated to the new acute hospital in the KTDA, HA will commence the next phase of KCC CSP formulation to delineate the healthcare services at the vacated site at King's Park area.

BACKGROUND

In the 2013 Policy Address, the Government announced its intention to revisit the demand for medical facilities in Kowloon. It was subsequently confirmed in the 2014 Policy Address that the reserved hospital site in the KTDA, which is geographically located in KCC, would be developed to better serve the escalating medical demand. The Strategy and Planning Division of the HA Head Office (HO) and the KCC embarked on the formulation of KCC CSP, chiefly to inform the development of this new hospital.

The new acute hospital, sited at a strategic position, will provide convenient access to the residents living in the catchment area of KCC as well as the surrounding areas such as Wong Tai Sin and Kwun Tong districts. Alignment of service developments of hospitals in the vicinity of this new hospital for more integrated and patient-centred care will be important. Besides, the new hospital will also provide a unique opportunity for the redevelopment of the vacated site at King's Park after relocation of clinical services from QEH to the new acute hospital. A Master Development Plan for the site will be formulated at a later stage.

In July 2015, the Government issued the Report of the Steering Committee on Review of Hospital Authority (HA Review report), in which one of the recommendations was to refine the administrative boundaries of the Kowloon clusters. HA subsequently developed an Action Plan for implementing the recommendations made in the HA Review report, which included the re-grouping of Wong Tai Sin district and Mong Kok area from Kowloon West Cluster (KWC) to KCC, to bring about greater benefits and convenience to patients. This resulted in the re-grouping of Tung Wah Group of Hospitals Wong Tai Sin Hospital (WTSH), Our Lady of Maryknoll Hospital (OLMH) and Kwong Wah Hospital (KWH) from KWC to KCC to support the new KCC

catchment districts covering Kowloon City, Yau Tsim Mong and Wong Tai Sin districts. Given the new hospital in the KTDA will plan a leading role in KCC, the intended service and design implication for the new hospital is also included in the CSP.

ABOUT KOWLOON CENTRAL CLUSTER
(Before the Re-grouping Exercise in 2016)

KCC is one of the seven clusters of the HA. At the time of the Phase One formulation of this CSP, KCC comprised six hospitals / institutions and six General Out-patient Clinics (GOPCs) that were located predominantly in the Yau Ma Tei, Tsim Sha Tsui and Kowloon City areas. Of particular significance to KCC and in planning of services was the relatively high level of service provision by the Cluster to patients from other districts, particularly from neighbouring districts such as Wong Tai Sin. For example, around 50% of Accident and Emergency (A&E) first attendances, almost 60% of acute in-patient bed days, and around 75% of extended care bed days of the residents of Wong Tai Sin were provided by KCC.

The provision of services to patients from other districts is in part explained by the central location of the Cluster in the Kowloon region and the fact that QEH is the second largest hospital under the management of HA and a designated trauma centre.

Established in 1963, QEH possesses a full complement of clinical services across 16 specialties and is a centre for tertiary referral. However, the hospital is at a state where advancements and services are constrained by outdated facilities and inadequate operational space. The development of an acute hospital in the KTDA, within the boundaries of KCC, provides potential for service development in the Cluster and opportunity to improve the care of patients residing in the catchment area of KCC and from neighbouring districts, as well as paves the way for the redevelopment of QEH.

GOVERNANCE AND METHODOLOGY

The project commenced in July 2013, with planning teams from both KCC and HAHO formed to facilitate the process. In addition, consultancy of service was sought from an experienced overseas healthcare service planner and hospital architectural designers, to provide input from an international perspective.

The project was overseen by a Project Committee, chaired by the Cluster Chief Executive (CCE) of KCC and the Director of Strategy and Planning from HAHO, and comprised KCC senior clinicians and management, Hospital Governing Committee (HGC) representatives, as well as senior management from HAHO. In addition, an Advisory Panel was convened to review the findings and recommendations made by the overseas consultants and provide advice to the Project Committee.

Project updates were regularly reported to the members of the Directors' Meeting (DM) where overall steering was provided and also to the Medical Services Development Committee (MSDC) for final approval.

KCC CSP was developed through a structured process and broad staff engagement approach, from both within and outside the Cluster. The methodology involved vertical specialty / discipline-based consultation followed by horizontal cross-specialty / multi-disciplinary clinical programme-based consultation. To take into account the views from neighbouring hospitals, staff from WTSH, OLMH and KWH, and also United Christian Hospital (UCH) of the KEC were consulted.

The resultant information and deliberations formed the basis of the clinical service programmes of KCC, the recommendations on the service provision of the new acute hospital in the KTDA, and also the role delineation of the hospitals in KCC.

The above engagement exercise included staff briefings, survey, face-to-face consultation sessions with frontline healthcare professionals and hospital management, as well as submission of programme-based service delivery proposals through the newly formed multi-disciplinary, cross-hospital clinical work groups. Culmination of these was a one-day seminar, whereby stakeholders came together to deliberate on the profile of the clinical service programmes.

The draft Phase One KCC CSP was made available to around 480 key stakeholders between 12 March and 23 April 2014, to solicit feedback and suggestions. The stakeholders included management staff and clinicians from KCC, KEC and KWC, the HGCs of KCC hospitals, and senior executives from the HAHO. Responses received were carefully reviewed and deliberated by KCC CSP Project Committee and used as a basis to refine the CSP.

Following formulation, the Phase One KCC CSP was submitted to the DM, followed by the MSDC of the HA Board for endorsement and approval.

Subsequent to the issue of the HA Review report in 2015 and in support of re-grouping WTSH, OLMH and KWH from KWC to KCC in 2016, Phase Two of KCC CSP was carried out by incorporating the outcome of HA Review report into the Phase One report, as well as presenting the delineated roles of the hospitals in KCC after the re-grouping exercise. During Phase Two, the whole KCC CSP is available to over 400 key stakeholders from 16 June 2016 to 3 August 2016 for comment. The stakeholders include clinical and management staff and the HGCs of KCC hospitals, including the three hospitals that would be re-grouped into the Cluster, as well as senior executives from the HAHO. Similar to Phase One, responses received were carefully reviewed by the Project Committee, followed by refinement and submission of the CSP to the DM for endorsement and to MSDC for approval.

FRAMEWORK AND CORE VALUES

The development of KCC CSP was guided by the following two framework themes:

- ***Management of the continuum of care***: Service development anchors on the availability of a major comprehensive acute hospital in the KTDA, and an integrated service delivery model from the A&E department through to end-of-life care.
- ***Coordination of a Kowloon Collaborative***: Services focus on collaboration among various hospitals so as to ensure comprehensive care and easy accessibility by the patients from various resident districts.

Staff from KCC adapted these themes into the following four core values to support formulation of the future clinical service directions:

- To bring services to patients
- To pursue excellence through multi-disciplinary team approaches
- To provide services to patients from the acute setting through to the community
- To collaborate with other Kowloon clusters

KEY CHALLENGES

In developing the CSP, staff from across KCC and neighbouring clusters took into consideration the current service challenges, as well as those anticipated in the future. These formed the basis for mapping out the models of care and clinical service directions for the Cluster, to enable the strategic planning of services and facilities to better meet the needs of patients and staff and address the major challenges ahead.

The key challenges taken into consideration include the followings:

- Demographic shift and cross-cluster service demand
- Difficulty in maintaining continuity of care
- Suboptimal hospital infrastructure
- Rising patients' expectation
- Support for the Hong Kong Children's Hospital (HKCH)
- In-service training and continuing professional development

MODELS OF CARE

The opportunity of planning for a new acute general hospital in the KTDA paved the way for every specialty and discipline in the Cluster to rethink the way services were organised and delivered and how best to enhance these to meet the needs of the local communities.

In general, services would be developed along two paths:

- ***Specialty-based services***: Where it is anticipated that specialty departments will continue to develop according to projected service demand.
- ***Programme-based services***: Clinical evidence has shown that there are disease types which are best managed through cross-specialty collaboration. These types of service require seamless coordination among specialties and disciplines to provide appropriate care at the right time to ensure maximal recovery for patients' return to the community.

Enabling realisation of specialty-based and programme-based services would require the development of multi-disciplinary care and incorporation of these service concepts into the physical fabric of facilities. For example, for hospital layout, this would include the concept of identifiable areas or zones to cater to specific functions, such as a "hot floor" zone to accommodate services expected to operate round the clock, including A&E and critical care.

CLINICAL SERVICE PROGRAMMES

In many countries, clinical services and related work flows have evolved to ensure smooth coordination and transitions of care, patient convenience and comfort through the development of cross-specialty / multi-disciplinary clinical service programmes. In formulation of KCC CSP, 10 clinical programmes were deliberated and proposed. Directions on these clinical service programmes are as follows:

- ***Neuroscience Service***: A tertiary / quaternary service equipped to serve KCC and the neighbouring clusters by shared use of high technology facilities. To support this will be the development of multiple disease-based programmes through multi-specialty cooperation.
- ***Cardiothoracic Service***: A cluster-based programme for cardiac and respiratory diseases, with cardiothoracic surgery as the amalgamating component. Cardiac medicine and surgery services will come under one roof at the new acute hospital, providing a one-stop service for all cardiac patients. The respiratory services will link up the cluster and beyond through the current respiratory medicine service network in the Kowloon region.

- ***Peri-operative Service***: Adoption of an efficient integrated peri-operative service, with emphasis on improving efficiency for both emergency and elective services, through enhanced patient management. Protocol-driven models of care are to be developed through close collaboration between emergency physicians, radiologists, surgeons and intensive care specialists. These include a focus on the development of a one-stop pre-admission service to enhance same day surgery, or even same day discharges, as well as a post-anaesthetic care unit service to support post-operative recovery.
- ***Critical Care Service***: Resources will be concentrated into a "hot floor" zone, with single clinical governance for Intensive Care Unit (ICU). Patients will be segregated into medical and surgical streams during infectious disease surge periods for better management and improved standard of care. Development of an acute short-stay paediatric ward in support of the A&E department and to help manage emergency admissions to the HKCH, without compromising patient safety.
- ***Obstetrics and Neonate Service***: A multi-disciplinary Maternal Fetal Medicine (MFM) service will be developed with support from a comprehensive family-centred neonatal intensive care service.
- ***Cancer Service***: An integrated protocol-driven service with enhanced one-stop diagnostic and assessment capabilities to improve lead time towards definitive treatment for different types of cancer. Patients will be followed through the care process from diagnosis to palliation through a case management approach. The volume of patients justifies major ambulatory service development in chemotherapy, as well as post-treatment surveillance.
- ***Kidney Disease Service***: A partnership model between nephrology and urology will jointly take care of renal transplant patients. A feature will be ambulatory services, potentially at a satellite location, through adoption of advanced technology in urological interventions and nephrology home care.
- ***Musculoskeletal Disease Service***: A protocol-driven service that will feature early assessment, and streamline complex patients to inter-specialty clinics for collaborative joint care through multi-disciplinary ambulatory care approaches. Separation of elective services from the acute setting to ambulatory for patient management could be contemplated.
- ***Elderly Service***: It will aim at aligning the catchment areas of acute services with community support to improve continuity of care. Elderly health will be enhanced through maintenance programmes in the community and early channeling of in-patients through assessment and planning units, for example, fast-track investigations and priority referrals. Age-appropriate and disease-oriented facilities can be concentrated in areas where patients are diverted.

- ***Mental Health Service***: It will adopt a recovery-centred approach with multiple points of intervention. Coupled with multi-disciplinary care, featuring allied health clinics, the programme could improve service quality.

ROLE DELINEATION

The delineated roles of the hospitals will support the Cluster by aligning their service development for more integrated and patient-centred care, for better serving the escalating service demand. The catchment districts of KCC will be redefined in alignment with a key recommendation of the HA Review report to improve the continuity of care for patients. On the whole, hospitals and institutions in the re-grouped KCC will adopt a collaborative approach to ensure comprehensive care and enhance service linkage for patients from various resident districts. With the service network arrangement, acute services for KCC will be provided by the new acute hospital in the KTDA and KWH.

Following the development of a new acute hospital in the KTDA, the services of QEH will be relocated to the new facility, thus paving the way for the redevelopment of the vacated King's Park site according to the service needs of Hong Kong.

The new acute hospital in the KTDA will take a leading role by orchestrating the coordination of care across KCC. A comprehensive range of specialty services including a neuroscience centre and an oncology centre will be provided, and it will serve as a designated trauma centre. It will also support the adjacent HKCH which is also located in the KTDA, and the central administrative functions of the Cluster will be provided there.

Meanwhile, **KWH** will continue as an acute hospital to provide emergency care and elective services of general specialties, including non-radiation oncology, and with a particular focus on ambulatory care services. KWH will partner with extended care hospitals of the Cluster, particularly Kowloon Hospital (KH), to enhance the continuum of care for patients according to the district they reside in.

HKCH, which is being developed in the KTDA, will serve as a specialty hospital providing territory-wide paediatric services. It will be the key player of the paediatric service network in HA through a "hub-and-spoke" model, with HKCH serving as the tertiary referral centre for complex cases requiring multi-disciplinary management. Another hospital bearing the role of a specialty hospital in KCC is **Hong Kong Eye Hospital (HKEH),** which will continue to provide ophthalmology services.

The service profile of **Hong Kong Buddhist Hospital (HKBH)** will continue, serving as an extended care hospital providing convalescent and rehabilitation in-patient care for patients transferred from the new acute hospital in the KTDA, along with ortho-geriatric services, particularly total joint replacements. **WTSH** will also serve as an extended care hospital, offering convalescent and rehabilitation in-patient care for patients transferred from the new acute hospital in the KTDA, while also offering respiratory medicine

and infirmary services. On the other hand, **OLMH**, its neighboring hospital, will function as a non-acute hospital principally providing ambulatory care services and some elective in-patient services. The hospital will continue to provide out-patient, endoscopy, day surgery, diagnostic support such as computed tomography scan and palliative care services to Wong Tai Sin district after its redevelopment. HKBH, WTSH and OLMH will form a service network with the new acute hospital in the KTDA to streamline and coordinate the patient pathways from hospital to community care.

KH will retain its role as an extended care hospital, providing medical convalescent and rehabilitation services for patients transferred from KWH. It will continue to offer respiratory medicine and psychiatric in-patient care, as well as ambulatory mental health services. Further service re-organisation between KH, KWH and QEH will be explored across different disciplines and specialties.

The **Hong Kong Red Cross Blood Transfusion Service (BTS)** will be the institution serving all hospitals in Hong Kong through the collection, processing and provision of high quality blood and blood products.

THE NEW ACUTE HOSPITAL AT KAI TAK

Service Provision

The new hospital in the KTDA will be an acute hospital, providing a comprehensive range of acute hospital services, with modern service models, technology and facilities. It will have A&E services, be a designated trauma centre and provide enhanced neuroscience services. The hospital will accommodate in-patient, out-patient and ambulatory services, and provide services to support the adjacent HKCH. The hospital will be characterised by high technology, sophistication and diversity, incorporating contemporary models of care.

Implementation Enablers

The models of care and clinical service directions outlined in KCC CSP will require progressive achievement in a number of key enablers. These include end-users participation in physical design, department or programme-based workforce planning, organisation and management of clinical programmes, adoption of information and communications technology, and an overall financial resource planning.

Of key importance is continued open communication and information exchange with KCC staff and stakeholders. Their engagement is vital to the successful implementation of the CSP. The HA annual planning process will be the mechanism through which additional resources will be sought.

Concept Design

The concept design aims to demonstrate that the functional relationships of the clinical services developed in the CSP can "work" effectively in the near and long term on the proposed KTDA site.

The proposed site for the new acute hospital in Kai Tak is flat, with good ventilation and open views of the waterfront. There are extensive opportunities for greening and landscaped areas for use by both patients and staff. The site can accommodate floor areas of between 8,000m^2 and 12,000m^2 on a single floor, which is essential for programme-based services by co-locating relevant clinical departments, future flexibility and for the integration of new technology.

The hospital will be designed as a holistic medical complex with a clear linked hospital street circulation system, including covered air-conditioned bridges. This medical complex will include a central entrance hub, ambulatory facilities, hot floors, other clinical services, surgical, medical, maternity wards and other in-patient wards.

Horizontal connections will be provided to HKCH on key floors. In addition, there will be capacity remained at the site for further expansion of the new acute hospital to enable it to meet the expected and unexpected future service demands.

CONCLUDING REMARKS

Formulation of KCC CSP relied on the professionalism, wisdom and expertise of staff from across KCC and neighbouring Clusters. Future models of care and clinical services directions to achieve the best possible patient care and outcomes were generated through their combined and unwavering commitment. The reclustering of hospitals in the Cluster presents an opportune time for coupling their synergy to achieve these in the new KCC.

Enabling change will require a built up of momentum and enthusiasm via continuous communication and information exchange. Changes should begin now to support the planning and development of new service models in the new KCC. A cluster-based committee involving the CCE 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 through which additional resources will be sought for implementing the strategies.

摘要

九龍中聯網臨床服務計劃闡述聯網的整體臨床服務策略，亦以此推動啟德發展區新急症醫院的發展，以及擬定九龍中聯網其他醫院未來的發展方向及角色定位。

九龍中聯網臨床服務計劃的制訂工作分為兩個階段。第一階段集中闡述九龍中聯網未來的服務方針，以及啟德發展區新急症醫院的服務範圍和設計理念，以指引新醫院的設計和興建。第二階段則詳述九龍中聯網及鄰近地區各醫院的角色定位，並會考慮醫院管理局（醫管局）檢討報告的結果及九龍東聯網的服務規劃。當伊利沙伯醫院的臨床服務遷移到新醫院後，京士柏現址將會空出，而醫管局亦會開展制訂下一階段的九龍中聯網臨床服務計劃，重新規劃該址所提供的臨床服務。

背景

政府在 2013 年出版的施政報告宣佈會重新審視九龍區的醫療設施需求 。2014 年出版的施政報告更落實於啟德發展區預留土地發展一間新醫院，以應付九龍中聯網日增的服務需求。醫管局總辦事處的策略發展部與九龍中聯網携手制訂九龍中聯網的臨床服務計劃，指導新醫院的發展。

新急症醫院位於啟德發展區，位於九龍中心地帶，將能夠為九龍中聯網及黃大仙等地區的居民提供便利的服務。新醫院落成後，各鄰近醫院的服務發展方向將會重新整合，提供以病人為中心的綜合護理服務。此外，當伊利沙伯醫院的臨床服務遷移到新醫院後，京士柏現址將會空出並帶來重建的機會。

政府在 2015 年 7 月公布檢討醫管局督導委員會的報告中，建議醫管局調整九龍區聯網的界線。醫管局就報告的建議制定了具體計劃，包括將原屬於九龍西聯網的黃大仙區及旺角（涉及黃大仙醫院、聖母醫院及廣華醫院）歸入九龍中聯網內，希望更方便病人和提高效益。

關於九龍中聯網

九龍中聯網是醫管局的七個聯網之一。在制定本計劃的第一階段時，九龍中聯網共有六間醫院 / 醫療機構及六間普通科門診診所，主要分佈於油麻地、尖沙咀及九龍城區。在規劃過程中，我們觀察到不少居於其他聯網所屬地區的病人會使用九龍中聯網的服務，其中以來自鄰近的黃大仙區情況最為明顯。舉例來說，黃大仙區約有 50% 的急症室求診人次、接近 60% 的急症住院病床日數及約 75% 的延續護理病床日數均由九龍中聯網提供。由於聯網位於九龍的中心地帶，加上聯網內的伊利沙伯醫院是醫管局轄下的第二大醫院，亦是指定的創傷中心，因此吸引不少其他地區的病人使用九龍中聯網的服務。

伊利沙伯醫院於 1963 年成立，提供全面的臨床服務。該院的服務涵蓋 16 個專科，亦是第三層醫療服務的轉介中心。不過，由於設施已經過時及老化，加上空間不足，醫院的發

展和服務備受限制。因此，在啟德發展區興建一間急症全科醫院，不但可以加強九龍中聯網的服務，改善聯網及鄰近地區居民的醫療服務，同時亦有利於伊利沙伯醫院的重建。

管治及制訂方法

本計劃的制訂於 2013 年 7 月正式展開，由九龍中聯網及醫管局總辦事處組成的規劃小組合作進行。此外，我們亦邀請了經驗豐富的海外醫療服務策劃專家及醫院建築設計師擔任顧問，借鏡國際的服務模式及建築概念。

本計劃由一個項目委員會負責監督。該委員會由九龍中聯網總監及醫管局總辦事處策略發展部總監一同擔任主席，成員包括九龍中聯網的醫院管治委員會成員、資深臨床人員、以及聯網和醫管局總辦事處的管理團隊。除此之外，我們亦成立了顧問委員會，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。

總監會議督導整個計劃的制訂，並定期聽取項目委員會的匯報。本計劃最終由醫療服務發展委員會通過。

九龍中聯網臨床服務計劃的制訂過程嚴謹，並由聯網內外的人員廣泛參與。計劃的制訂方法包括專科為本（縱向）及跨專科臨床項目為本（橫向）的諮詢程序。此外，我們亦諮詢了鄰近聯網醫院的人員，包括九龍西聯網的黃大仙醫院、聖母醫院和廣華醫院，以及九龍東聯網的基督教聯合醫院。

從以上過程所得的資料及意見，能夠為九龍中聯網的臨床服務項目、啟德發展區新急症醫院的服務，以及九龍中和鄰近聯網各醫院角色定位訂立基礎。

我們亦安排了一連串的諮詢工作，包括員工簡報會、問卷調查，以及與各專科 / 部門前線醫護人員及醫院管理層的面談。此外，我們亦成立了跨部門和跨醫院的臨床工作小組，就未來的服務發展提交了建議。最後，我們舉辦了為期一天的研討會，總結及討論各持份者的建議。

第一階段計劃的初稿完成後，我們於 2014 年 3 月至 4 月期間向約 480 位持份者，進行了為期六個星期的諮詢，蒐集他們的回應和建議。這些持份者包括九龍中、九龍西和九龍東聯網的前線人員和管理層，九龍中聯網管治委員會的成員，以及醫管局總辦事處的資深管理人員。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。

第一階段計劃的擬稿經由總監會議審視，隨後由醫管局大會轄下的醫療服務發展委員會通過。

第二階段計劃的制訂工作在 2015 年檢討醫管局督導委員會公布報告後展開，醫管局採納了報告的建議，包括將本屬於九龍西聯網黃大仙醫院、聖母醫院和廣華醫院歸入九龍

中聯網內，及重新劃界後九龍中聯網各醫院的角色定位。第二階段計劃擬稿於 2016 年 6 月完成，我們向超過 400 位持份者蒐集意見，他們包括九龍中聯網管治委員會的成員、前線人員和管理層，新納入聯網內的三間醫院及醫管局總辦事處的管理人員。收集到的意見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。最後擬稿經由總監會議審視，隨後由醫管局大會轄下的醫療服務發展委員會通過。

框架及核心價值

九龍中聯網臨床服務計劃是根據兩大主題框架而制訂：

- ***提供連貫的醫療服務***：因應啟德發展區急症醫院的成立，聯網將會致力提供由急症至善終的綜合服務
- ***促進九龍區各聯網的協作***：九龍區各聯網醫院會加強合作，確保各區病人均獲得全面及便捷的醫療服務

九龍中聯網的同事將以上的主題，轉化為下列四個核心價值，以便訂立未來的臨床服務方向：

- 將服務帶到病人身邊
- 以跨專業團隊模式，追求卓越的醫療服務
- 為病人提供全面的急症至社區護理服務
- 與九龍區其他聯網通力合作

主要挑戰

在制訂九龍中聯網服務計劃的過程中，九龍中及鄰近聯網的同事充分考慮當下及未來的挑戰，並以此作為訂立聯網服務模式和方向的基礎，從而策劃服務及設施，以配合病人和員工需要，及應付未來的挑戰。

九龍中聯網面對的主要挑戰包括：

- 人口結構變化及跨聯網的服務需求
- 病人欠缺連續的照顧
- 醫院基建尚待改善
- 病人的期望不斷提升

- 需要支援香港兒童醫院的服務
- 員工的培訓及持續專業發展

醫護模式

藉著啟德發展區將興建新急症全科醫院的機會，各專科部門可以重新檢視現行的服務模式，並作出改善，以回應社區的需要，為九龍中聯網的醫療服務發展帶來新契機。

總括而言，臨床服務將會朝以下兩個方向發展：

- ***專科為本***：專科部門會繼續根據服務需求發展
- ***臨床項目為本***：臨床證據顯示，跨專科協作的治理形式對某些疾病更為有效，因此，各專科部門必須緊密合作，為病人提供最合適的服務，令他們更快康復，重返社區生活。

有見及此，我們不單需要發展跨專業的醫療團隊，而醫院的設計亦要充分配合這服務概念。以醫院的佈局為例，應該劃分不同的區域，以便將特定功能的服務結合起來。例如設立「緊急樓層」，集中需 24 小時運作的緊急服務，包括急症室及深切治療等服務。

臨床服務項目

根據國際經驗，臨床服務將朝著跨專科和跨專業協作的模式發展。服務模式需要能為病人提供流暢、協調、方便及舒適的綜合臨床服務。在制訂本計劃的過程中，聯網提出了 10 個跨專科和跨專業的臨床服務計劃，各發展方向如下：

- ***神經科學服務***：聯網會為九龍中及鄰近聯網提供第三層及第四層神經科服務。透過共用高科技設施，及推行跨專科合作服務項目，治療不同疾病。
- ***心胸科服務***：服務發展會以聯網為基礎，處理心臟及呼吸系統的疾病，當中包括心胸外科服務。在新急症醫院內，心臟內科及外科服務將會集中在同一樓層，為心臟科病人提供一站式服務。九龍區內的胸肺內科服務亦會加強合作，把服務連繫起來。
- ***手術服務***：聯網會加強手術前後的協調工作，以改善緊急及非緊急手術的服務效率。急症科、放射診斷科、外科及深切治療科醫生之間亦會緊密合作，建立服務流程。透過推行一站式的手術前服務，增加日間手術的服務量。此外，聯網將發展麻醉後監護室，支援術後的護理。

- ***深切治療服務***：深切治療服務將集中在「緊急服務樓層」，並統一的臨床管治架構。同時，外科病人和非外科病人將在傳染病高峰期間分開處理，提升服務質素。另外，新急症醫院會設立短暫住院的兒科病房，以便支援急症室，處理香港兒童醫院的急症入院個案。

- ***婦產及初生嬰兒服務***：聯網會發展跨部門的綜合母嬰醫學服務，輔以全面及以家庭為中心的初生嬰兒深切治療服務。

- ***癌症服務***：聯網會設立綜合式的腫瘤科醫療服務，依據治療程序，提供一站式的診斷及檢查，務求改善治療癌症的輪候時間。在個案管理的形式下，由確診至紓緩服務的不同過程中，病人將接受個人化的跟進服務。由於病人數目續年遞升，我們亦有需要發展日間化療及治療後的監察跟進。

- ***腎病服務***：腎科及泌尿科將以夥伴形式，聯手治理腎臟移植的病人。此外，泌尿科的介入治療及腎科的家居護理亦會採用更先進的技術，以便發展和提供日間醫療服務，而提供服務的地點可以在醫院以外的地方。

- ***骨骼肌肉系統疾病服務***：服務著重治理流程，盡早評估病人的狀況，並將複雜的個案轉介至跨專科的門診，盡量以日間服務的方式為病人服務。此外，非急症的個案亦會使用日間醫療模式處理，以確保病人可獲得適時的服務。

- ***長者服務***：聯網將理順不同聯網區域的急症服務和社區支援的服務，以便利病人。為提升長者的健康，聯網將提供社區健康服務，並透過臨床評估盡早為有需要的病人分流（例如提供快速檢查及優先轉介服務）。此外，醫院的設施也應切合長者的需要。

- ***精神健康服務***：服務會以康復為本，分階段進行治療。跨專業的治療團隊包括專職醫療人員診所，為病者改善服務。

醫院的角色定位

聯網醫院清晰的角色定位有利聯網整合服務發展，提供以病人為中心的綜合護理，以應付持續上升的服務需求。九龍中聯網的服務區域會根據醫管局檢討報告的建議重組，為病人提供持續的護理服務。整體來說，在重新劃界後，九龍中聯網的各間醫院和機構將通力合作，為各區病人加強服務上的聯繫。根據服務網絡的安排，九龍中聯網的急症服務將由啟德發展區新急症醫院和廣華醫院提供。

當**啟德發展區的新醫院**落成後，伊利沙伯醫院的臨床服務將會遷移到新醫院。京士柏的現址將會騰出空間，並作重新規劃。

新急症醫院將提供全面的專科服務，當中包括建立神經科學中心和腫瘤科中心。此外，新醫院亦是指定的創傷中心，以及支援隔鄰的香港兒童醫院。聯網內的中央行政服務亦會由新醫院提供。

廣華醫院除了作為急症醫院外，也將會發展日間醫療服務，並繼續提供不同專科的緊急及非緊急服務，包括放射治療以外的腫瘤科服務。廣華醫院會夥拍聯網內的其他延續護理醫院，特別是九龍醫院，根據病人的居住的地區，提供有連貫性的護理服務。

同在啟德發展區的**香港兒童醫院**將會是一間專科醫院，提供全港性的兒科服務。香港兒童醫院在本港的兒科服務中將擔當關鍵的角色，負責接收香港各區的第三層醫療轉介，提供跨專業的醫療服務。九龍中聯網的另一間專科醫院，**香港眼科醫院**，亦會繼續提供眼科的專科服務。

香港佛教醫院會擔當延續護理醫院的角色，支援啟德發展區內的新急症醫院，為轉院病人提供康復服務。除此之外，香港佛教醫院亦會提供長者骨科服務，特別是關節置換手術。**黃大仙醫院**亦會是一間延續護理醫院，一同支援新醫院的服務需要，並提供胸肺科及療養服務。鄰近的聖母醫院則會是一間非急症醫院，提供不同專科的非緊急服務包括門診、內窺鏡、電腦掃描等。往後，**聖母醫院**將會主力發展日間醫療服務及非緊急住院服務。香港佛教醫院、黃大仙醫院和聖母醫院會聯同啟德發展區內的新急症醫院組成一個服務網絡，以完善從醫院到社區的治理流程。

九龍醫院會擔當延續護理醫院的角色，主要支援廣華醫院的病人在康復服務方面的需要；醫院亦會提供胸肺科、精神科住院及日間精神健康服務。伊利沙伯醫院，九龍醫院和廣華醫院的各專科部門的服務亦將會重新整合。

香港紅十字會輸血服務中心將會負責為香港各醫院收集、處理和提供血液及血液製品。

啟德的新急症醫院

服務內容

新醫院屬於急症全科醫院，將採用現代化的服務模式、科技及設施，提供全面的急症服務。新醫院亦是指定的創傷中心，並會提供先進的神經科服務。新醫院的服務範疇涵蓋住院、門診和日間醫療服務，並會為毗鄰的香港兒童醫院提供支援。總括而言，新醫院將以高科技、多元化的服務作為其特色，並融入現代化的護理模式。

落實推行

本計劃闡述的各種護理模式與臨床服務項目，需要一系列的元素的配合推行落實。這些元素包括讓用家參與醫院的實體設計、推行以專科或項目為本的人才規劃、籌備及管理臨床服務項目、善用資訊及通訊科技，以及進行整體的財務規劃。

在計劃落實的過程中，九龍中聯網員工及持份者的積極參與至為重要。此外，推行計劃所需要的額外資源，將會透過醫管局周年工作計劃的機制，予以考慮。

設計理念

新醫院的設計理念是希望能藉着推動本計劃的各項臨床服務，使其持續發展。

醫院的選址為平地，有良好通風，而且面向海濱長廊，景觀開揚。此外，選址有大量可供綠化的空間，讓病人及員工可享有更舒適的環境。由於醫院每個樓層的面積可達 8,000 至 12,000 平方米，相關的臨床部門可以毗連而建，有助發展以臨床項目為本的服務，亦讓服務的發展更具彈性，以及加強新科技與服務的融合。

醫院的設計以綜合醫療大樓為主軸，具備清晰的通道系統，包括具備空調且有蓋的天橋。其他設施包括中央入口樞紐、日間醫療設施、緊急樓層、各臨床服務區域、外科病房、內科病房、產房及其他住院病房等。

醫院的主要樓層將有通道連接香港兒童醫院。選址亦預留了充足的空間，供日後擴建之用。

總結

九龍中聯網臨床服務計劃的制訂，有賴九龍中及鄰近聯網同事的積極參與，群策群力，為制訂未來的醫療模式及臨床服務貢獻他們的專業知識及智慧，務求為病人提供最優質的服務。

要推動改變，必須保持積極的態度、緊密的溝通和坦誠的交流。要發展全新的服務模式，必須坐言起行，改變成就在當下。我們將會成立一個由聯網總監及資深人員組成的聯網委員會，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，申撥所需資源以推行各項策略。

Introduction

BACKGROUND AND PURPOSE OF PLAN

In the 2013 Policy Address, the Government announced its intention to revisit the demand for medical facilities in the Kowloon region and if necessary expedite the development of the reserved hospital site in the Kai Tak Development Area (KTDA) which is geographically located in the Kowloon Central Cluster (KCC). It was subsequently confirmed in the 2014 Policy Address that the reserved hospital site in the KTDA would be developed to better serve the escalating medical demand. In this connection, the Hospital Authority (HA) commenced in July 2013 to formulate a Clinical Services Plan (CSP) for the KCC. The aim is to provide an overarching clinical strategy to facilitate and guide the development of the new acute hospital in the KTDA. It is to align and inform the future service developments and roles of other hospitals and facilities in KCC.

At the same time, the new acute hospital site in the KTDA provides a unique opportunity for the redevelopment of Queen Elizabeth Hospital (QEH), of which advancement and services are currently constrained by outdated facilities and inadequate operational space. Furthermore, given the significant provision of services to patients from outside the Cluster, as well as the strategic location of where the new acute hospital will be sited, formulation of KCC CSP also provided the opportunity to consider how the healthcare needs of the surrounding areas, such as Wong Tai Sin district, could be better served. Development of the new acute hospital aims to provide convenient access to clinical services for residents in the catchment area of KCC as well as the surrounding areas. Alignment of service developments of hospitals in the vicinity for more integrated and patient-centred care will be essential to better serve the community.

In this regard, a comprehensive approach was taken to formulate KCC CSP, involving broad engagement with major stakeholders, including frontline staff from KCC and its neighbouring Clusters, as well as Hospital Governing Committees (HGCs). Policy overlay was also provided through Cluster management and HA Head Office (HO).

Beginning with an examination of the current challenges and opportunities faced in KCC, the CSP capitalises on the strong expertise and local knowledge from frontline staff in developing high quality services to large numbers of patients, incorporating their views and aspirations in the way services will be delivered in the future.

Overall, KCC CSP presents the guiding principles, models of care, clinical strategies and role delineation of hospitals for the Cluster. Implementation enablers to support the success of the clinical strategies is also described. Given that the new acute hospital in the KTDA will play a leading role in the provision of services, it forms the major focus of KCC CSP which covers the service provision as well as design implications for the concept design of the new hospital.

OTHER CONSIDERATIONS

Planning of services in KCC needs to take into account the concurrent development of other healthcare facilities and their service provision in the vicinity. For example, a number of hospital redevelopment or expansion projects are underway which will be completed in the coming years, including establishment of the Hong Kong Children's Hospital (HKCH) in the KTDA, refurbishment of Hong Kong Buddhist Hospital (HKBH), re-provisioning of the Yau Ma Tei Specialist Out-patient Clinic at the QEH, redevelopment of the Kwong Wah Hospital (KWH), as well as expansion of United Christian Hospital (UCH) in the Kowloon East Cluster (KEC). By doing so, the aim has been to ensure that the hospital services will complement one another, and be well-coordinated, efficient and effective.

As a blueprint for the clinical strategies of the Kowloon central region, KCC CSP will support ongoing robust planning of HA services and inform the subsequent design process of major capital projects of hospitals in the locality. At the same time, it provides sufficient flexibility to accommodate future changes, such as changes in technology and government planning standards.

Furthermore, concurrent to the process of formulating KCC CSP, the Government announced in the 2013 Policy Address that it would conduct a comprehensive review of HA, and set up a Steering Committee on Review of HA in August 2013, to explore viable measures for enhancing the cost-effectiveness and quality of services with a view to providing HA with increased capability to cope with future challenges. In anticipation of the result of the HA Review, preparation of KCC CSP was carried out in two phases – Phase One focused on the future service directions of KCC in general, and the service provision and concept design of the new acute hospital at Kai Tak; while Phase Two took into consideration the recommendation of the HA Review to describe the role delineation of hospitals and institutions in KCC. The service planning in the neighbouring KEC was also considered.

In July 2015, the Government issued the Report of the Steering Committee on Review of Hospital Authority (HA Review report), in which one of the recommendations was to refine the administrative boundaries of the Kowloon clusters. HA subsequently developed an Action Plan for implementing the recommendations made in the HA Review report, and would re-group Wong Tai Sin district and Mong Kok area from the Kowloon West Cluster (KWC) to KCC, to bring about greater benefits and convenience to patients. This resulted in the re-grouping of Tung Wah Group of Hospitals Wong Tai Sin Hospital (WTSH), Our Lady of Maryknoll Hospital (OLMH) and KWH from KWC to KCC to support the new KCC catchment districts which would cover Kowloon City, Yau Tsim Mong and Wong Tai Sin districts.

BACKGROUND OF KCC (Before the Re-grouping Exercise in 2016)

KCC is one of the seven clusters of the HA. At the time of the Phase One formulation of this CSP, the Cluster comprised six hospitals / institutions and six General Out-patient Clinics (GOPCs) that were located predominantly in the Yau Ma Tei, Tsim Sha Tsui and Kowloon City areas (Figure 1). The six hospitals / institutions were QEH, Kowloon Hospital (KH), Hong Kong Buddhist Hospital (HKBH), Hong Kong Eye Hospital (HKEH), the Hong Kong Red Cross Blood Transfusion Service (BTS), and Rehabaid Centre (RC)[1]. The six GOPCs were located in Yau Ma Tei, Central Kowloon, Hung Hom, To Kwa Wan, Kowloon City, as well as inside HKBH. The Cluster managed 3,572 beds (comprising 2,021 acute beds, 1,008 convalescent / rehabilitation beds, 118 infirmary beds and 425 psychiatric beds)[2] through a workforce of around 9,546 staff.[3]

Figure 1. Map of Healthcare Facilities of the Kowloon Central Cluster (Before the Re-grouping Exercise in 2016)

1. In April 2016, HA terminated the management and operation of RC as requested by the Hong Kong Society for Rehabilitation, the governing body of RC.
2. HA Report on Annual Survey on Hospital Beds in Public Hospitals 2015/16. This reference applies to all bed figures in this chapter.
3. Number of full-time equivalent staff (as at 31 March 2015), HA Annual Report 2014-2015. This applies to all workforce figures in this chapter.

		Hospital/ Institution	Specialist Outpatient Clinic	General Outpatient Clinic
1	Queen Elizabeth Hospital ✚	√	√	
2	Kowloon Hospital	√	√	
3	Hong Kong Buddhist Hospital	√	√	√
4	Hong Kong Eye Hospital	√	√	
5	Rehabaid Centre	√	√	
6	Hong Kong Red Cross Blood Transfusion Service	√		
7	Central Kowloon Health Centre		√	√
8 & 9	Yau Ma Tei Jockey Club General Outpatient Clinic / Yaumatei Specialist Clinic Extension		√	√
10	Hung Hom Clinic			√
11	Lee Kee Memorial Dispensary			√
12	Shun Tak Fraternal Association Leung Kau Kui Clinic			√

In terms of service volume, in 2014-15 the Cluster managed around 209,610 in-patient and day patient discharges[4], 179,447 Accident and Emergency (A&E) first attendances, 1,026,591 specialist out-patient clinic (SOPC) attendances[5], and 570,648 GOPC attendances[6]. In the same period, there were around 6,320 live births in KCC[7], accounting for around 14% of the total live births in HA. Over half of the bed-days in the Cluster were occupied by patients aged 65 years or over.

Of particular significance to KCC and in planning of services, was the relatively high level of service provision by the Cluster to patients from neighbouring districts such as Wong Tai Sin. For example, only a relatively small proportion of the in-patient services of KCC were provided to patients residing in the Yau Mai Tei, Tsim Sha Tsui and Kowloon City areas, where KCC healthcare facilities were predominantly located. Around two-thirds of in-patient services and almost 60% of A&E services were provided to residents from other districts. Most notably, around 50% of A&E first attendances, almost 60% of acute in-patient bed days, and around 75% of extended care bed days of the residents of Wong Tai Sin were provided by KCC.

The provision of services to patients from other districts was in part explained by the central location of the Cluster in the Kowloon region and the fact that QEH, its flagship hospital, is the second largest hospital under the management of HA and a designated trauma centre. Furthermore, QEH is a centre of tertiary referral for patients from across Hong Kong; providing tertiary and quaternary services in trauma care, clinical oncology, interventional vascular procedures, cardiothoracic surgery, paediatric surgery, joint replacement service, respiratory medicine, spinal rehabilitation, and Human Immunodeficiency Virus (HIV) services on a regional and territory-wide basis.

4. Included discharges and deaths.
5. SOP attendances include attendances from nurse clinics in SOP setting.
6. GOP attendances include attendances for doctor consultations, attendances from nurse clinics in general out-patient setting and attendances in related healthcare reform initiative programmes in primary care.
7. Refers to convalescent / rehabilitation and local infirmary care, but excludes Central Infirmary Waiting List (CIWL).

HOSPITALS AND INSTITUTIONS OF THE CLUSTER

The hospitals and institutions in KCC provide a comprehensive set of services for patients. Within the Cluster each hospital and institution has a unique history, culture and service mix, collectively spanning acute care through to rehabilitation, palliation and end-of-life (EOL) care. A brief profile of each hospital / institution in KCC is set out below to support the context of the service planning outlined in the ensuing chapters, while a list of their services is delineated at *Appendix 2*.

Queen Elizabeth Hospital

Established in 1963, QEH is the only acute tertiary hospital in KCC and is one of the largest HA hospitals (in terms of bed numbers) in Hong Kong, managing 1,882 beds, through a workforce of around 6,477 staff.

The hospital possesses a full complement of clinical services across 16 specialties, which has enabled the delivery of care to patients across different clinical settings, including in-patient and out-patient through to community outreach services. In addition, QEH delivers more specialised tertiary and quaternary services for a number of its clinical specialties to patients with complex conditions from across the Kowloon region and the whole Hong Kong.

QEH provides 24-hour A&E services and is one of the five designated trauma centres in Hong Kong. Managing among one of the busiest A&E departments in HA, QEH provides A&E services to a significant number of residents in the vicinity, including patients from neighbouring districts, such as Wong Tai Sin. The A&E department of QEH is a significant driver of the hospital's in-patient activity, with around 40% of the 492 average daily first attendances being admitted.

QEH provides undergraduate and post-graduate training of doctors, nurses and allied health professionals, and has established close relationships with tertiary education institutes. The School of General Nursing is situated at the QEH campus. In 2011, a Multi-disciplinary Simulation and Skills Centre (MDSSC) was set up at QEH to provide a full range of simulation-based education, as well as technical support in developing simulation programmes.

Kowloon Hospital

KH is a multi-specialty hospital of 1,321 beds with a workforce of around 1,955 staff. The hospital mainly serves patients from the Kowloon districts, including Kowloon City, Mong Kok, Tsim Sha Tsui, Wong Tai Sin and Kwun Tong. It also services as a main support base for rehabilitation patients from QEH and UCH.

KH provides acute and extended-care services and has one of Hong Kong's largest chest centres. It was among the first hospitals in Hong Kong to establish a department of rehabilitation, and the first to inaugurate a pulmonary rehabilitation programme, psychogeriatric day hospital, and a substance abuse clinic.

Main specialties and services provided by the hospital include psychiatry, rehabilitation and respiratory medicine, across in-patient, out-patient and day-patient settings. In addition, the hospital provides 294 extended care beds to support the step-down care of medical, orthopaedic and trauma, spinal cord injury, surgical, cardiothoracic and paediatric cases of KCC.

Over the years the hospital has fostered collaborations with other hospitals and institutions in central Kowloon, including consolidating its supporting role to QEH through developing and expanding its scope of work in community and outreach services. Examples include the community psychiatric service, community psychogeriatric service, community geriatric assessment service, community medical rehabilitation service, community nursing service, community / domiciliary physiotherapy and community / domiciliary occupational therapy services.

Hong Kong Buddhist Hospital

Founded by the Hong Kong Buddhist Association in 1970, HKBH is a Schedule 2 hospital, managing 324 beds, through a workforce of around 374 staff.

The hospital provides care to patients admitted through its out-patient department or transferred from QEH. In-patient services comprise medicine, orthopaedic joint replacement, palliative care (hospice) and general convalescence. In addition to in-patient services, out-patient services include specialist clinics for Ear-Nose-Throat (ENT), gynaecology, medicine, orthopaedic joint replacement, palliative care, as well as a day rehabilitation centre. For ENT and gynaecology, through historic service arrangement, clinics are delivered by private doctors. The hospital also accommodates one of the six GOPCs managed by the Cluster.

HKBH is currently planning for refurbishment of its in-patient wards, clinical and supporting departments, offices and ancillary facilities; as well as the conversion of space into wards to provide additional in-patient bed capacity for convalescence and rehabilitation.

Hong Kong Eye Hospital

HKEH was established in 1992 to replace the Yaumatei Eye Centre in providing secondary ophthalmic services for patients in the Kowloon region, and tertiary referrals throughout the territory. HKEH manages 45 beds through a workforce of around 294 staff.

HKEH provides specialised ophthalmic services, with general ophthalmology and various sub-specialty services in glaucoma, cornea and external eye, paediatric and strabismus, orbit and oculoplastic, surgical vitreo-retina, medical retina and neuro-ophthalmology.

The hospital houses the Department of Ophthalmology and Visual Sciences (DOVS) of the Chinese University of Hong Kong (CUHK) and has been accredited as a Clinical Drug Trial Centre[8]. The hospital and DOVS together provide undergraduate and postgraduate ophthalmology training, education and research for local medical students and overseas trainees respectively. In addition, regular ophthalmology training for family medicine trainees, student nurses, optometry and orthoptist students, as well as private practitioners is provided at the hospital.

The HA Eye Bank Office also operates from HKEH, distributing cornea for transplant surgeries across the territory.

8. Accredited by the China Food and Drug Administration (CFDA) of the People's Republic of China as a "Clinical Drug Trial Centre".

Hong Kong Red Cross Blood Transfusion Service

In 1952, the Hong Kong Red Cross began its voluntary non-renumerated blood donation programme – the forerunner of today's Blood Transfusion Service. Today, the BTS, managed under the HA, is responsible for ensuring the sufficient supply of safe and high quality blood and blood components for local transfusion therapy patients at all hospitals in Hong Kong.

With its headquarter located adjacent to the QEH campus in central Kowloon, the major services of BTS include motivating the community to donate blood regularly, with respective collection, testing, processing and distribution of blood and blood components to hospital blood banks (both HA and private hospitals). Donations are managed through mobile teams and donor centres in Hong Kong and blood collection vehicles.

BTS provides a number of highly specialised services in the territory, including the External Quality Assurance Programme for blood banks in Hong Kong and reference laboratory for immuno-haematology. BTS also operates Hong Kong's only public cord blood bank and bone marrow donor registry, to assist patients in need of bone marrow transplant to find unrelated matched haematopoietic stem cells.

Rehabaid Centre

Established in 1979, Rehabaid is a client-centred organisation dedicated to improving the quality of life of people with special needs and to promoting healthy living in the community. The RC, previously under the management of KCC, provided readily accessible, territory-wide services for people with special needs, health care providers and the public in (i) specialised rehabilitation, (ii) community rehabilitation and (iii) wellness enhancement, (iv) training and information services.

In April 2016, HA terminated its management and operation of RC as requested by the Hong Kong Society for Rehabilitation, the governing body of RC. The related rehabilitation services will continue under the administration of KCC.

HOSPITALS INCLUDED IN KCC AFTER IMPLEMENTATION OF HA REVIEW ACTION PLAN

In support of the recommendation in the HA Review Action Plan to re-group Wong Tai Sin district and Mong Kok area from KWC to KCC, three hospitals namely WTSH, OLMH and KWH will be included into the administration of KCC, together with seven GOPCs, after the implementation of the HA Review Action Plan in 2016. A brief profile ofthese three hospitals is set out as follows.

Kwong Wah Hospital

KWH is the first hospital founded in Kowloon. Over the years, KWH had developed from 72 beds to 1,206 beds through a workforce of around 3,355 staff. KWH is an acute hospital providing a range of in-patient and out-patient services to the community, including 24-hour A&E services and obstetrics and gynaecology (O&G). The hospital also provides specialised services including pre-natal diagnosis, day surgery, endoscopy, urology and renal dialysis, as well as community-based geriatric services and allied health services.

With the redevelopment of KWH underway, as part of the government's ten-year hospital development plan, KWH will continue to serve the community with its unique culture and modernised design.

Our Lady of Maryknoll Hospital

Founded by the Maryknoll Sisters in 1961 as a catholic hospital, OLMH provides holistic care to patients, and is committed to promoting primary health in the community. OLMH manages 236 beds through a workforce of around 831 staff.

The hospital offers both in-patient and out-patient services. In-patient clinical specialties include surgical, medical, geriatrics, palliative care and gynaecology, as well as elective subspecialty cardiac, endocrine, gastroenterology and neurology services. The multi-specialty out-patient services include internal medicine and geriatrics, surgery, cardiology, diabetes and endocrinology, gastroenterology, neurology, palliative care, ENT, gynaecology, orthopaedics, and paediatrics. There are also four GOPCs in Wong Tai Sin district that are supported by OLMH.

The hospital is also the earliest provider of hospice care in Hong Kong since 1982. It is accredited by the HK College of Physicians for Basic Physician Training and Higher Physician Training in diabetes, geriatrics, gastroenterology and palliative care. The GOPC serves as a training centre for family medicine and is accredited by the HK College of Family Physicians for Hospital based and Community based training.

As part of the government's ten-year hospital development plan, OLMH is currently under planning to be redeveloped. This includes the refurbishment of the Outpatient Department Building and demolition of two wings for the construction of a new block, so as to better serve the long-term medical needs of the community, especially for patients with chronic diseases and the ageing population.

Tung Wah Group of Hospitals Wong Tai Sin Hospital

WTSH is a convalescent and rehabilitation hospital, managing 511 beds through a workforce of around 614 staff.

Established by the Tung Wah Group of Hospitals in 1965, WTSH was first developed as an infirmary to treat chronically ill elderly patients. It has gradually expanded its role as an extended care institution, providing intensive multi-disciplinary rehabilitative training programmes for re-integration of patients into society.

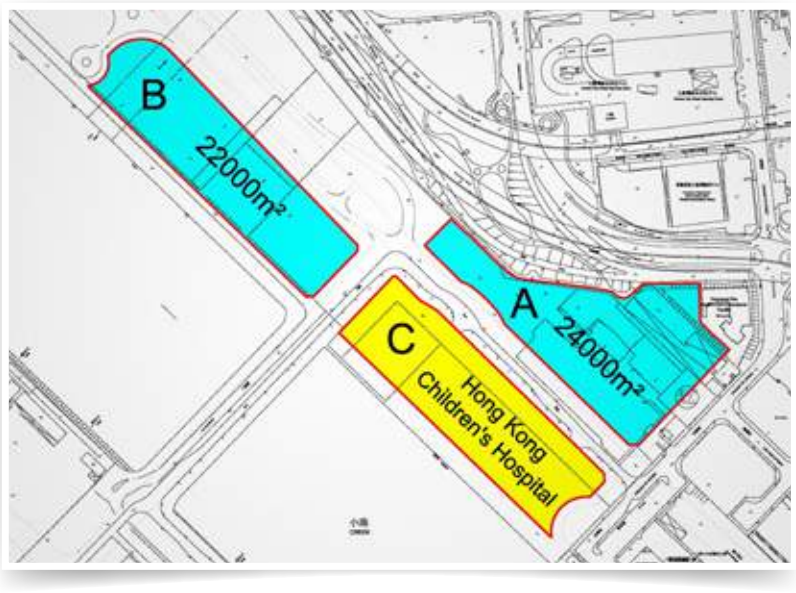
WTSH provides special programmes to care for patients with chronic chest diseases, physical handicaps and complicated geriatric problems. The hospital also treats patients with tuberculosis and sub-acute chest diseases. Its geriatric day hospital provides continual care and treatment for discharged elderly patients, so as to enhance reintegration into their family and the community. In addition, the Board of Management of the Chinese Permanent Cemeteries Palliative Care Centre was put in service in 2008, to serve patients with end-stage organ failure and cancer, in order to meet the physical, psycho-social and spiritual needs of patients and families.

THE KAI TAK DEVELOPMENT AREA

The KTDA is a major development project covering the ex-airport site, together with adjoining districts of Kowloon City, Wong Tai Sin and Kwun Tong. The development project will have a mix of community, housing, business, tourism and infrastructural uses[9].

Three sites have been zoned for hospital development at Kai Tak on the older airport south apron (Figure 2). The proposed combined site for the new acute hospital comprises of two site areas, Site A (24,000m^2) and Site B (22,000m^2). A third site (Site C) has been reserved for the establishment of HKCH. Advanced planning for HKCH is underway, with construction work having started in 2013 for completion by 2017, and with service commencement by phases starting from 2018.

Figure 2. Reserved hospital sites in the KTDA



In line with the Government policy, the HA is proactively planning to build a new acute hospital in the KTDA using both sites A and B, to provide clinical services of major specialties, including A&E services, to meet the needs of the local population.

Service planning for the new acute hospital in the KTDA would also provide an opportunity to address the current issue of Wong Tai Sin Residential Care Home for the Elderly (RCHE) patients discharged from KCC hospitals losing the continuity of their care by the KH Community Geriatric Assessment Team (CGAT) upon their return to the community. This is because the CGAT in Wong Tai Sin was under the management of KWC.

9. www.ktd.gov.hk/eng/index.html (Accessed March 2014).

Planning Process

GOVERNANCE

The project to develop a CSP for KCC commenced in July 2013, with planning teams from both KCC and HAHO formed to facilitate the process. The project was overseen by a Project Committee, chaired by the Cluster Chief Executive (CCE) of KCC and the Director of Strategy and Planning from HAHO, and comprised KCC senior clinicians and management, HGC representatives, as well as senior management from HAHO. The membership is delineated in *Appendix 3*.

Overseas Consultants with extensive experience in healthcare service planning and hospital architectural design were also engaged to provide input to the project. A list of the consultants is provided in *Appendix 3*. At the same time, an Advisory Panel, with membership set out in *Appendix 3*, was convened to review the findings and recommendations made by the overseas consultants and provide advice to the Project Committee. Members of the Directors' Meeting (DM) provided overall steering for the project. Following formulation, KCC CSP was submitted to the DM for endorsement, followed by the Medical Services Development Committee (MSDC) of the HA Board for approval.

The overall governance structure of the project is illustrated in the Figure 3 below.

Figure 3. Overall project governance structure

METHODOLOGY

KCC CSP has been developed through a structured process and broad staff engagement approach, with HA clinical and management policy overlay. The following sections briefly outline the methodology.

Setting the Scene

In August 2013, a Cluster briefing forum was held to mark the beginning of the development of KCC CSP. Over 200 service heads, senior clinicians, management and executives from across the Cluster and HAHO attended the forum. Staff were briefed about the project and its methodology, and invited to participate in the planning process.

Following the briefing forum, a structured two-phase consultation process was conducted to solicit views on the current services, their gaps and opportunities, as well as anticipated changes in models of care and technologies on healthcare delivery in the coming decades, especially in relation to a new acute hospital in the KTDA.

Vertical Specialty-Based Consultation

The first phase of the consultation involved department-based survey and face-to-face interviews to gather staff views on the current service profiles, gaps and future developments within departments or specialties, at the hospital, cluster and cross-clusters level.

Survey

In August 2013, a self-administered survey was sent to each clinical unit, department and institution in KCC. In addition, to take into account views from neighbouring Cluster hospitals, staff from KWH, OLMH and WTSH of KWC, and UCH of the KEC were also invited to complete the survey. The overall response rate was 97% (out of a total of 298) by survey return.

Face-to-face Interviews

Using the completed surveys as a basis, 90 sessions of face-to-face interviews were held from mid-September to end-October 2013, out of which 75 were with staff from KCC and 15 with staff who were providing services at OLMH and WTSH. Overall attendance of these interviews was 360, including service heads, medical and nursing staff, pharmacists, allied health professionals and hospital management. The aim of the face-to-face interviews was to clarify survey responses, explore specific issues highlighted by participants and gather views on future models of care and service directions for KCC, and in particular service provision of the new acute hospital in the KTDA. The foci of these discussions were then used to inform the next phase of the CSP development process.

Horizontal Programme-based Consultation

The second phase of staff consultation, conducted between November and December 2013, involved the formation of ten Clinical Work Groups (CWGs) to formulate proposals for the development of major clinical programmes in KCC which require multi-specialty / cross-disciplinary collaborations. The CWGs and their respective chairs were identified by the consultant in conjunction with KCC and HAHO planning teams during the course of the face-to-face interviews and reviewed by the Cluster management. The clinical programmes were those considered to have significant multi-specialty / cross-disciplinary components and major implications for service planning. The purpose of the CWGs was to provide a platform for relevant stakeholders from different specialties, disciplines and hospitals to formulate proposals on the development and organisation of major clinical programmes within KCC. This included the service provision of the new acute hospital in the KTDA and how its services align with other hospitals in both KCC and other Kowloon Clusters. Over 140 frontline colleagues were engaged in this phase of consultation.

Culmination of this phase of consultation was a one-day seminar held on 16 December 2013 and facilitated by the Director of the Strategy and Planning Division from HAHO. Around 350 participants attended the seminar, including the Chief Executive of HA, CCEs from KCC and other Clusters, clinicians, nurses, pharmacists, allied health professionals and other HA executives. The ten CWGs were on neuroscience, critical care, elderly service, musculoskeletal diseases, kidney diseases, obstetrics and neonates, mental health, cancer service, cardiothoracic service, and peri-operative service. Their proposals are summarised in the Clinical Service Programmes chapter.

Each CWG presented the proposed service models and strategies for their clinical programmes. In addition, presentations were also made on the proposed developments for clinical supporting services including radiology, pathology, as well as anaesthesiology / operating theatre (OT) services. The presentations had generated constructive discussions.

ROLE DELINEATION

Based on the two phases of staff consultation and engagement, particularly on the proposals and information obtained from the CWGs, the future role and service provision for the new acute hospital in the KTDA was elucidated. Moreover, the consultation also provided the basis for crystallising the future roles and service profiles of the other hospitals in KCC, including KWH, WTSH and OLMH which were re-grouped into KCC, in consideration of the outcome of the HA Review report.

DEMAND PROJECTION

Service demand and bed number projections were computed up to 2031. These projections took into account population growth and demographic changes, and age-gender-specialty specific service utilisation trends for districts where KCC hospitals are predominantly located as well as the surrounding districts. Details of the projection are documented in the Capacity Planning chapter.

CONCEPT DESIGN

Based on the role and service provision of the new acute hospital in the KTDA, as well as design studies, site investigations and consultations, the overseas consultants formulated and proposed a concept design for the new hospital. The purpose of the concept design was to demonstrate in principle how the architectural design and spatial arrangements could incorporate and sustain the recommended clinical service directions and service needs in the CSP.

POLICY OVERLAY

Policy overlay in the development of KCC CSP was provided through the DM. This involved policy decisions at high level, with broad considerations of the views of various stakeholders, including the different government bureaux and the HA Board.

DRAFTING OF KCC CSP

KCC CSP was drafted with inputs from different stakeholders and taking into account deliberations from both the “vertical” and “horizontal” consultations, recommendations from the overseas consultants, and policy overlay. Chairs of the CWGs provided written reports of their proposals, based on their deliberations and discussion at the one-day seminar, which were adapted for inclusion in KCC CSP.

Specifically, preparation of KCC CSP was carried out in two phases. Phase One focused on the future service directions of KCC in general, and the service provision and concept design of the new acute hospital in the KTDA. Phase Two described the role delineation of hospitals in KCC, taking into consideration the outcome of the HA Review report.

CONSULTATION OF DRAFT PHASE ONE KCC CSP

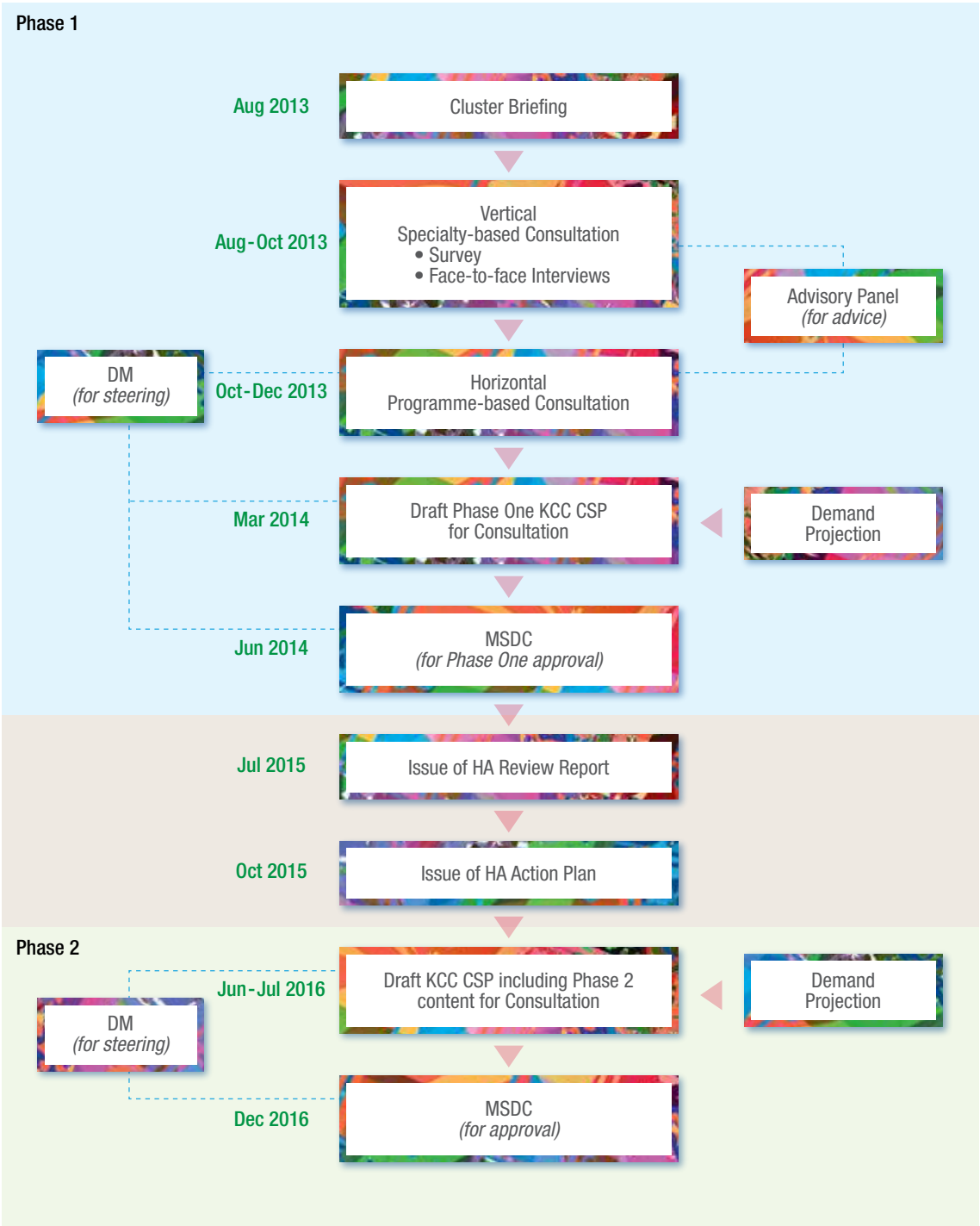
The draft Phase One KCC CSP was made available to around 480 key stakeholders between 12 March and 23 April 2014, to solicit feedback and suggestions. The stakeholders included management staff and clinicians from KCC, KEC and KWC, the related HGC representatives, and senior executives from HAHO. Responses received were carefully reviewed and deliberated by the Project Committee and used as a basis to refine the CSP.

CONSULTATION OF DRAFT PHASE TWO KCC CSP

Similar to the Phase One report, the whole KCC CSP which has incorporated the HA Review outcome and included the delineation of hospital roles after the reclustering of KCC is available to over 460 stakeholders from 16 June 2016 to 3 August 2016 to solicit feedback and suggestions. The stakeholders include clinical and management staff and the HGCs of KCC hospitals, including the three hospitals that would be re-grouped into KCC, as well as senior executives from the HAHO. Likewise, responses received were carefully reviewed by the Project Committee and used as a basis to refine it as the final KCC CSP.

Figure 4 provides an overview of the process and methodology for the development of KCC CSP.

Figure 4. Development process and methodology for KCC CSP



Framework and Core Values

KCC CSP was developed based on a set of overarching principles which were used as the starting point for discussions and deliberations with frontline staff on the future models of care and service directions. The overarching principles support the drive by KCC for quality and safety, access to the best possible care at the right time and provided by the right person or team.

The overarching principles are:

- Services should be patient-centred with models of care and service directions designed for the benefit of patients and their families and carers
- Services should be integrated and well-coordinated throughout the care process
- Wherever possible, services should be developed on the principle of "localise where possible, centralise where necessary"[10]
- Fostering multi-disciplinary approaches to care

During the course of staff engagement and consultation, the above overarching principles have informed the formulation of a discussion framework.

FRAMEWORK

Two key themes form the basis of the discussion framework for KCC CSP, namely:

- ***Management of the continuum of care***: Service development anchors on the availability of a major comprehensive acute hospital in the KTDA, and an integrated service delivery model from the A&E department through to EOL care.
- ***Coordination of a Kowloon Collaborative***: Services focus on collaboration among various hospitals so as to ensure comprehensive care and easy accessibility by the patients from various resident districts.

CORE VALUES

KCC staff adapted these themes into the following four core values, to support the formulation of the future clinical service directions. These are:

- ***To bring services to patients***: The CSP is set forth with a view to bringing services to patients through re-designing care processes and facilities. It is a practical application of patient-centred care, especially with the adaption of advanced technology to the best possible benefit for the patients.
- ***To pursue excellence through multi-disciplinary team approaches***: Modern best practice requires multiple disciplines and coordinated care. While valuing time-proven specialty-based services, programme-based care involving healthcare professionals from various disciplines can enhance patient satisfaction and optimise recovery.

10. Darzi A, Healthcare for London: A Framework for Action. London: NHS London; 2007.

- ***To provide services to patients from the acute setting through to the community***: The CSP should ensure seamless transitions between different services to achieve best outcomes. Service models should address a good balance in acute, convalescent, rehabilitation and community care.
- ***To collaborate with other Kowloon Clusters***: Tighter service collaboration with other Kowloon Clusters is essential to support local needs, especially given the significant proportion of patients served by KCC who reside in other districts.

Collectively the framework and four core values form the cornerstones of the strategies outlined in the KCC CSP.

Key Challenges

In developing the CSP, staff from across KCC and neighbouring Clusters took into consideration the current service challenges, as well as those anticipated in the future. These form the basis for mapping out the models of care and clinical service directions for the Cluster, to enable the strategic planning of services and facilities to better meet the needs of patients and staff, as well as address the major challenges ahead.

The key challenges, which are of particular significance to the development of KCC CSP are outlined below.

DEMOGRAPHIC SHIFT AND CROSS-CLUSTER SERVICE DEMAND

The population in the Yau Ma Tei, Tsim Shai Tsui and Kowloon City areas, where KCC hospitals are predominantly located, is growing and ageing at a rapid pace. Between 2014 and 2024 the overall population of these districts is projected to increase by 7.4% (from 534,900 to 574,700). Furthermore, for the elderly population aged 65 years or over in these areas the percentage increase would be even greater, at 49.5% (from 89,900 to 134,400)[11]. As a result, the percentage of the elderly population in these areas would increase from 16.8% in 2014 to 23.4% by 2024, compared to the percentage in Hong Kong overall, rising from 14.7% to 21.7% respectively. In fact, KCC is serving a high percentage of elderly patients, with around 55% of in-patient bed days occupied by patients aged 65 years or above in 2014. In addition, the disproportionate increase in elderly population and the complexities of illness of elderly patients places a profound and growing demand on KCC services. The Cluster is also anticipated to experience additional population growth through development of major residential complexes in the KTDA.

Before the revision of cluster boundary of KCC in 2016, there was a mismatch between hospital services and the area where KCC service users resided in. KCC was managing a high proportion of patients from other districts. Around two-thirds of in-patient services and almost 60% of A&E services were provided to residents from other districts. Staff in KCC strived to manage large numbers of patients, through streamlining patient flows and improving efficiency. However, efficiency alone is not sufficient to cope with meeting the anticipated healthcare demands. There is a need to fundamentally rethink the way in which care is delivered, which is more efficient and meet the increasing service demands. An example is the shift towards ambulatory models of care, such as day surgery and day chemotherapy.

DIFFICULTY IN MAINTAINING CONTINUITY OF CARE

One of the significant drivers of in-patient service demand in KCC is the high number of A&E attendances at QEH. Despite efforts of staff in streamlining services to manage demand, there exist significant challenges to patient flows both within and across hospitals in the Cluster, leading to congestion of facilities, challenges to infection control, difficulty to achieve continuity of care and match expertise with patient needs.

Doctors, especially those at QEH, have attempted to alleviate the in-patient load by sending patients to other hospitals in the Cluster for step-down care, or discharging them back to the community. However, these have resulted in multiple hospital transfers and recurrent admissions. Also, post-acute care is mostly dependent on bed availability in the Cluster, rather than the patients' need. This can mean patients with similar post-acute needs may be cared for differently – by different specialties with different skill sets, in different types of wards or beds, at different hospitals. On the other hand, for staff working in wards and clinical areas, it can mean caring for patients with very different needs, some of which may be complex and

11. Mid-2014 population estimates by Census & Statistics Department & 2014-based population projection by Planning Department.

for which the facilities or services were not originally set-up for. The current fragmentation in the continuity of care does not provide for a patient-centred approach to care and presents a challenge to staff in fully realising cross-specialty and multi-disciplinary integration. There is a need to address the continuum of care, in particular how patients are managed to move from acute settings to post-acute, as well as from convalescent care to the community.

In addition, around 30% of QEH acute in-patient services are provided to residents of Wong Tai Sin district which was outside the catchment district of KCC before the re-grouping exercise in 2016. Whilst on the other hand, over half (54%) of Wong Tai Sin residents received their acute in-patient care from QEH in terms of bed days. In the current model of service delivery, these patients can experience anomalies in the coordination of their care with respect to in-patient and out-patient services, community, convalescent and rehabilitative care. For example, once a patient from Wong Tai Sin district has received acute care from the QEH they are also likely to continue to receive their post-acute and follow-up care from KH or HKBH, rather than hospitals or institutions in Wong Tai Sin district, due to the networking arrangements. From the patient's and carer's perspective this can mean timely visits for follow-up care, which could have been delivered closer to their homes.

Timely and coordinated discharge of patients can also be affected. For example, for elderly patients from Wong Tai Sin district who receive hospital care in KCC, it can be difficult to ensure continuity of care when discharging these patients back to their community, since their subsequent care is managed by teams from another Cluster, for example, CGAT from KWC. Mechanisms need to be strengthened to ensure seamless handover of patients and care transitions to help support patients' return to the community and reduce the risk of hospital re-admission.

Better alignment and coordination of services across the Kowloon region could preserve continuity of care, whilst at the same time supporting staff to deliver the right care, at the right time and place for patients living in the vicinity.

SUBOPTIMAL HOSPITAL INFRASTRUCTURE

QEH, the flagship hospital of KCC, entered service in 1963. Today, multiple buildings have been built within the hospital campus to cater for the growing needs of clinical specialties. The hospital complex now comprises a main hospital building and a number of supporting service blocks. These include an Ambulatory Care Centre providing for SOPCs, allied health treatment clinics, and day surgery; and an OT Block.

The buildings are scattered across the campus, which does not facilitate efficient patient flow and care delivery. Moreover, many physical aspects of the hospital have become dysfunctional and present a real challenge in delivering high quality services. The dispersed configuration of facilities and departments across the hospital has led to inefficiencies in coordination and provision of services, especially those which are time-critical. For example, for acute stroke care the lack of concentration and functional proximity of facilities,

such as A&E services, radiology services, OT and High Dependency Unit (HDU) means there is fragmentation of expertise and capacity, constraining multi-disciplinary working for rapid patient assessment, coordinated treatment and management. The infrastructure of the hospital is no longer conducive to the delivery of care aspired to by staff, often constraining their capacity to perform. For example, there is a lack of a peri-operative ward for day of admission surgery. In addition, inflexible facilities pose a challenge to accommodating advances in technology and clinical innovations, such as intra-operative Magnetic Resonance Imaging (MRI).

Across KCC, other hospitals and institutions are experiencing similar challenges associated with their ageing infrastructure and facilities. Over the last decades considerable resources have been spent on renovating and repurposing hospital facilities to meet service needs, such as wards. However, in many instances, the fundamentals of the original infrastructure, such as ward location and connectivity, do not lend themselves well to incorporation in a modern hospital nor contemporary healthcare service delivery standards.

Despite the development of facilities over the years, these have not kept pace with rising demand and the service capacity in KCC is heavily strained, particularly during winter months.

RISING PATIENTS' EXPECTATION

There are rising patient and public expectations, which range from the quality and safety of care provided, through to all areas of the healthcare experience. With better access to health information, the public nowadays have greater awareness on differential diagnoses and therapies available, on personalised medical care, as well as on communication of information by healthcare professionals.

To KCC, these expectations will need to be addressed through new models of care and new facilities, such as age- and gender-appropriate environments, which are more welcoming, safer and are relevant to meet different needs of adults and children. It is of note that healthcare services around the world are focusing on more patient-centred models of care, such as programme-based services providing coordinated and even one-stop services for patients.

SUPPORT FOR THE HONG KONG CHILDREN'S HOSPITAL

HKCH is located in the KTDA, adjacent to the site of the new acute hospital. In terms of planning of services for the new acute hospital, there has been an ongoing effort to delineate the relationship between the two hospitals and the service needs for HKCH, so that the various specialties and disciplines can make necessary provision in their planning to accommodate the requirements. Furthermore, given the advanced stage of planning for HKCH, there has also been a need to consider the implications on the physical layout and connectivity between the two hospitals to facilitate their synergy.

IN-SERVICE TRAINING AND CONTINUING PROFESSIONAL DEVELOPMENT

The integration of continuing education and in-service training is a key component to improving service quality, disseminating knowledge and innovation. Support for such integration requires significant consideration in the way hospital facilities are organised, to provide for training within a clinical environment. Currently, areas equipped to support in-service training and continuous professional development are limited.

The current hospital facilities are not best set up to cater for the evolving needs of staff, particularly with regard to the provision of digital, wireless and mobile platforms. There is a need to incorporate infrastructure and space that will support future media and modalities, in-service training, skills-based and simulation-based learning.

In the future, KCC will need to cater for further integration of training, rapid learning environments and to support its continued role in the sharing of expertise and evidence-based medicine.

SUMMARY

KCC provides a complex and dynamic healthcare delivery system. As the hospitals within the Cluster evolve to meet changing healthcare delivery patterns, so too are their roles and the nature of services they provide. There is a need to ensure that the functions of each hospital are well delineated to enhance service linkage and the development of clinical services with appropriate supporting facilities, capacity and caseloads.

Models of Care

For KCC, the opportunity of planning for a new acute hospital in the KTDA has paved the way for every specialty and discipline in the Cluster to rethink the way services are organised and delivered and how best to enhance these to meet the needs of the local communities. The models described in this chapter are the aspirations of the staff of KCC and colleagues from the nearby Clusters. Achieving these would allow the clinical services in KCC to benchmark with the latest international standards and be more cohesive for patients. Some of the proposed models of care are not dependent on new facilities; and therefore staff in the Cluster can begin now to gradually move towards these models, rather than waiting for the completion of physical infrastructure.

GENERAL SERVICE MODELS

Services would be developed along the following two paths:

- Specialty-based services
- Programme-based services

Traditional specialty-based services are the basics of all hospitals. A large proportion of patients require services that belong to this category, such as patients requiring treatment for pneumonia. These patients would benefit most when they are cared for by the specialist in the time-proven way. Therefore, it is obvious that specialty departments will continue to develop according to the projected service demand.

At the same time, clinical evidence has shown that there are disease types which are best handled through cross-specialty collaboration, for example stroke and ST-elevation myocardial infarction (STEMI). Most of these conditions require time-critical treatment and have large impact on the functional ability of the patients. As such, seamless coordination between specialties and disciplines, through programme-based services, is paramount to provide the appropriate care at the right time, including the commencement of rehabilitation regime at the earliest opportunity during the acute phase of care, to ensure maximal recovery for patients' return to the community.

Underpinning both service types is the development of multi-disciplinary care. With rising complexity of treatment regimens, detailed care plans are often needed for speedier patient recovery. These require inputs from different disciplines and taking on board the concepts of case management / care coordination.

FUNCTIONAL AREAS OF THE NEW ACUTE HOSPITAL AT KAI TAK

The new acute hospital in the KTDA will be divided into zones and institutes like most advanced hospital around the world, to provide care according to the latest evidence-based care standards.

The hospital campus will be divided into functional zones. These zones are specifically designed and located to meet the requirements of users of these services, for best delivery of patient-centred care. Examples are the Hot Floors, Ambulatory Care, Integrated Pathology, and Integrated Radiology zones.

Some services will be co-located to create the concept of an institute. This service type is better suited to complex tertiary care where the environment is conducive to providing timely and appropriate care through inter-specialty collaborations. Furthermore, this can support the frequent interactions of specialists, which are also the catalyst to nurture medical advancement.

Examples of services which can be developed at the new acute hospital in the KTDA through integrated clinical programmes include cardiology / cardiothoracic surgery and neuroscience. Being an acute hospital and key service provider in KCC, the new acute hospital would have the critical mass in these services to support their development. Furthermore, KCC can take up the role in collaborating and coordinating these services across neighbouring Clusters, based on the service directions for clinical programmes.

SPECIFIC SERVICE MODELS FOR THE NEW ACUTE HOSPITAL

INTEGRATED CLINICAL PROGRAMME FLOORS

Traditionally, departments and specialties operate independently and patients who require care from multiple specialties often have to be separately assessed and managed through inter-departmental consultations. Clinical programmes put multiple specialties and disciplines together for providing comprehensive and coordinated services, from acute in-patient settings, through to out-patient and community settings. Services belonging to the same clinical programme can often be located on the same floor.

By identifying clinical programmes and defining the levels of care, better coordination can be achieved, particularly through a care coordinator for more personalised and holistic treatment. For example, currently the lead time to a confirmed diagnosis for patients presenting with haematuria is unduly long because of the current arrangement of inter-departmental consultation. Through an integrated clinical model, these patients can be streamlined to the right location, where there is a concentration of nephrologists and urologists, specialty nurses and therapists trained in the relevant specialties and disciplines. These healthcare professionals can promptly come together to decide the best care plans for these patients, reducing the lead time to actual therapy and strengthening continuity of care.

HOT FLOORS

"Hot floors" accommodate services that are expected to operate round-the-clock. They are collocated for maximal operational efficiency.

These time-critical services must be aggregated in an easily accessible part of the hospital campus, and include: (i) A&E Department, (ii) Short-stay Medical Wards, (iii) Short-stay Acute Ward for Paediatric cases, (iv) Acute Intervention Service, (v) Peri-operative Service, (vi) Critical Care, and (vii) featuring Advanced Technology. This also encompasses services for neurological emergencies, as well as acute cardiac and cardio-thoracic services. The new acute hospital at Kai Tak will be a trauma centre with A&E services, so this concept is of paramount relevance to its design. The main requirements are large floor plates and excellent horizontal and vertical connectivity.

Pathology and Radiology should have significant facilities in close proximity to the hot floors. As basic diagnostic and interventional tools, Computed Tomography (CT) and MRI need to be strategically located to meet the competing demands of the services on the hot floors. The integrated clinical programmes for both neuroscience and cardiovascular service should be located adjacent to the hot floors because they are frequent users of critical care services and require immediate access to OT and intensive care unit (ICU) services.

i) Accident and Emergency Department

The A&E department is the front door of the hospital and needs to handle large numbers of patients safely and effectively. In particular, QEH faces the challenges of some of the highest numbers of daily A&E attendances of any hospital in the HA. The following checklist itemises the characteristics of a contemporary A&E department:

Patient Management:

- Unimpeded access for emergency vehicles.
- A single point of triage that is safe, discreet and efficient.
- Adequate and appropriately located resuscitation cubicles for critical patients.
- Fast-track cubicles for lower triage category patients / follow-ups.
- Waiting areas which are secure, under surveillance, and age-appropriate (including areas which are child and elderly friendly).
- An observation area for patients who are likely to return home after 4-6 hours of surveillance.
- Short-stay units (such as Emergency Medicine Wards (EMW) in or adjacent to the A&E department, and the Medical Assessment and Planning Unit (MAPU).
- Suitable areas and facilities specifically for end-of-life care and spaces for distressed / grieving relatives.
- Infection control and isolation facilities.
- Good functional relationship with imaging modalities (ultrasound, X-ray and CT) within the department.

Psychiatric Care:

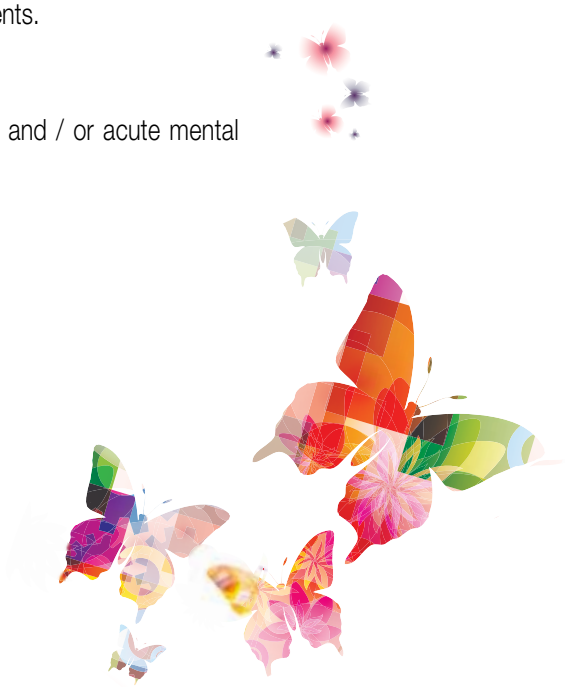
- Sufficient cubicles for physically or emotionally distressed patients.
- Facilities to support psychiatric observation and assessment.
- A secure area where patients with dysfunctional behaviours and / or acute mental health problems can be observed and managed.

Incident Management:

- A purpose-built decontamination facility.
- An incident management office.

Staff Facilities:

- Appropriate office, education and staff facilities.



ii) Short Stay Medical Ward

Population ageing is expected to result in higher numbers of older people with complex medical problems presenting to the A&E department. The challenge for health services will be the efficient management of these patients.

In response to the growing numbers of A&E department presentations by people with complex medical conditions, several countries (e.g. United Kingdom, Australia and New Zealand) have developed a model to streamline management and avoid institutionalisation of patients. The model has several variations and has different names; the MAPU is probably the most common.

The MAPU enables rapid assessment and, if necessary, acute intervention for patients before their transition to other units or hospitals, under the clinical management of specialist teams. This is differentiated from an EMW, since within an EMW the treatment episode is completed under the supervision of an emergency physician. Conditions managed in the EMW may include asthma, closed head injury, chest pain assessment and other minor conditions.

Patients are usually admitted to the MAPU from the A&E department, or referred from step-down beds in other hospitals, GOPC, or even Old Age Homes (OAH). The unit is best located in or adjacent to the A&E department.

The target group is patients who need intensive rapid assessment before their onward referral for continued care. The unit must have senior medical staff empowered to make decisions independently of sub-specialty teams. Priority access to investigations is required, while allied health and other support staff should be available round the clock. This facilitates early segregation of complex acute cases for in-patient care from the rest, where they would be diverted to the appropriate location for the relevant care they require. The clinical discipline of the medical staff is less important than their experience and delegated authority. Most units are staffed by either doctors from the medical departments or from the A&E department (or a shared-care model).

It is customary to set a time limit on the length of stay (LOS) in the MAPU – usually 24 hours, but some set on 48 hours. After assessment and stabilisation, patients will be referred to the appropriate level of care which could be:

- home,
- step-down hospital care,
- community care in OAH, or
- medical sub-specialty units

It should be noted that not all internists are either trained or suitable for working in these units. The stakeholders, which could involve the specialty colleges, need to come together to deliberate this arrangement further.

The literature abounds with evidence of favourable outcomes from MAPU in terms of decreased admission, decreased LOS and improved patient outcomes. The assessment and planning unit concept is not unique to medicine and general surgery in the development of clinical programmes in KCC. For example, both the Musculoskeletal and Elderly Services Clinical Work Groups proposed assessment and planning units as central components of their clinical strategies. The MAPU model should therefore be complementary to this.

iii) Short Stay Acute Ward for Paediatric Cases

Given that the HKCH will not have an A&E department (by design and intent), it is likely that the new acute hospital in the KTDA, which will be only metres away, will be a popular option for parents and families confronted with sick children.

There will be an expectation that assessment at the new acute hospital will lead to a rapid (and facilitated) admission to the HKCH if required. Experience from overseas suggests parents will travel considerable distances for specialist children's services.

A short-stay acute ward for paediatric cases with similar rules for what has been described for the MAPU is the first line option. This is supported by the paediatricians and emergency physicians in KCC. Although it is new and challenging, workforce and training implications will need to be considered.

iv) Acute Intervention Service

The preceding section has a focus on emergency admissions, with emphasis on the importance of assessment and planning units. However, for some conditions the model calls for time-critical intervention to be activated at the front door of the hospital, or even before that. For example, the management of chest pain, as well as the early assessment and intervention for stroke. Evidence shows that highly coordinated specialist care significantly improve health outcomes and restoration of functional state. They depend on early recognition and rapid transfer to well-equipped facilities, where decision on treatment and management can be made immediately. In the planning of the new acute hospital in the KTDA, the connectivity and proximity of these key services, equipment and facilities will support the required rapid patient care.

v) Peri-operative Service

Essential to any major hospital is its capacity to manage the surgical load efficiently and safely. This includes arrangements for the protection of sessions between elective and emergency services and their respective OT caseloads. This is of particular importance to the elective schedule, where unplanned emergency procedures have the potential to cause major disruption.

The contemporary peri-operative service provides seamless care for the patient, from the moment a decision is taken for surgical admission. The theatre management system should, at the time of the first booking, generate a proposed date of surgery and a booking for the pre-admission clinic. The clinics themselves are nurse-led and protocol driven.

Pre-operative investigations, patient orientation, briefing and education can be provided in this clinic. All patients will then be seen by an anaesthetist. The Anaesthesia Department will be housed in the peri-operative complex and anaesthetic assessments should be conducted in, or adjacent to, the theatre complex to facilitate patient orientation. Depending on the extent of the procedure, blood transfusion / banking arrangements will be made.

On days leading up to surgery, reminders will be sent to patients via mobile technology, e.g. SMS. On the day of surgery, patients present themselves directly to the generic peri-operative ward, which should have sufficient capacity to accommodate all patients suitable for day of surgery admission (DOSA).

The Anaesthesia Department will offer post-anaesthetic observation to ensure rapid recovery and early discharge. After surgery, patients will be moved to recovery or the high dependency Post Anaesthetic Care Unit (PACU). The concept of the PACU will be discussed in the Critical Care section below.

Day patients will move on to second stage recovery where their family / carer will be waiting for them. Patients who are to stay in the hospital overnight will be transferred from recovery to the respective ward for further care.

vi) Critical Care

Critical care is a generic term applied to a range of intensive care and high dependency units. For QEH, intensive care services have evolved rather than been planned; with small autonomous units scattered throughout the hospital that are owned by various sub-specialties, and not part of a coordinated critical care service.

The establishment of a critical care programme will allow a coordinated approach to workforce and facilitate a uniform, quality and safe service standard. It is recommended that ICU beds are to be located on the same floor with pods of 12- 16 beds. HDUs, if not under the same roof as the ICU, need to be highly connected to the ICU for service support within the hot floors zone. Individual HDUs and their patients can remain under the clinical direction and management of individual specialties, but clinical governance should rest with the intensivists.

The tension between the OT service and ICU bed availability is frequently attributed to the demand for beds for post-operative patients. This can be addressed by the introduction of a PACU. These units are usually part of the peri-operative service and physically located with recovery services. The PACU caters for the post-operative care of patients for whom an intensive care bed would normally be booked before the operation.

The unit would typically be under the clinical management of anaesthetists and provide mechanical ventilation support for up to 48 hours. Patients who develop multi-system organ failure or require haemodialysis or extracorporeal membrane oxygenation (ECMO) can be transferred to the main ICU.

Priority access and physical proximity to imaging and other diagnostics is crucial to the success of the critical care programme. A significant proportion of critical care beds should be isolation beds, i.e. in single rooms and with isolated ventilation.

vii) Advanced Technology in the New Acute Hospital

The new acute hospital in the KTDA is anticipated to embrace advanced technology, as the major acute hospital in the Cluster and as a tertiary and quaternary referral centre. Technology adoption should be evidence-based and be shared in a rational way. They also need to be built into the physical fabric of the hospital.

For example, most tertiary institutions have OTs with built-in angiography to enable a combined or sequential approach for vascular lesions. This principle is now being extended to other diagnostic modalities with MRI and CT being available within or adjacent to surgical suites, with neurosurgery as a particular example. These theatres / procedure rooms are known as "hybrids". Irrespective of the combination of modalities that any particular discipline may aspire to, there are a number of issues in common:

- They are expensive;
- Very large theatres are required (≥100 square metres);
- Floor loading capability needs to be built in;
- Provision must be made for ease of upgrade and incorporation of new technology; and
- Radiation protection for staff and observers is crucial.

On the other hand, minimally invasive technologies have gradually replaced open procedures as normal practice in many disciplines. These technologies are not only applicable to various body cavities, but also to endovascular interventions. Progressive refinements in these technologies have seen the introduction of robots to perform some, or all, of a particular procedure. It should be noted that these technologies are not necessarily reducing operating time nor are they less expensive. The trauma to patients as a whole is diminished, so is the LOS, and more patients (the older and sicker) can be offered this type of treatment.

AMBULATORY CARE

Ambulatory care embodies the concept that complex and sophisticated health services can be provided in an ambulatory setting that is suited to the needs of the patient.

There are two distinct models of ambulatory care in a hospital: i) as part of an integrated service, or ii) as a distinct part of a hospital.

i) Ambulatory Care as Part of an Integrated Service

In a major acute hospital and tertiary referral centre, such as the new acute hospital in the KTDA, a significant proportion of work relates to in-patient care. Given large floor plates, in-patient, out-patient (clinics), diagnostic, allied health, training and support facilities could be grouped together. Therefore, in the case of integrated programme-based services, it is a more economic use of equipment and human resources if the ambulatory and in-patient care areas are adjacent to each other.

This type of ambulatory care service can also offer day surgery procedures to patients across a range of disciplines. These units are usually organised to maximize same day surgery, day of surgery admission and, if possible, same day discharge.

For neuroscience, cardiology and cardiac surgery, obstetrics and neonatology, for example, ambulatory services collocated within in-patient and diagnostic services are able to share significant resources, enabling both in-patient and out-patients to be treated in the same space by the same clinical teams.

ii) Ambulatory Care as a Distinct Part of a Hospital

The other model of ambulatory care is the complete separation of ambulatory care and in-patient units (wards). This ambulatory care model usually focuses on containing all the facilities and technologies to allow comprehensive patient management, but with the patient returning home every evening. It is more suitable to cases that do not require high levels of specialist attention, but for which their conditions necessitate frequent attendances for different kinds of services. This option is more patient-centred and can provide coordinated multi-disciplinary care that obviates the need for traditional hospital admissions. Examples include Middlemore Hospital and the Greenlane Clinical Centre in Auckland, New Zealand.

Some disciplines, such as endocrinology, rheumatology, dermatology, urology and breast services have limited requirements for in-patient beds, and facilities can be purpose-designed in an ambulatory setting whilst still allowing for overnight or short stays if necessary.

Moreover, many patients, particularly those with chronic and / or complex problems find themselves attending the hospital on separate occasions often on consecutive days to see a range of health professionals. Under the ambulatory care model out-patient clinics, day procedures and day care can be organised so that an individual patient can see his / her health care team in one visit, or at the very least during the course of one day. One

example is elderly care, where health issues can be addressed though a multi-disciplinary approach, such as falls prevention, continence, exercise, nutrition, vision, degenerative joint disease and dentition services.

Collectively the approach to care can support patient maintenance in the community and care closer to home. Other examples where services can be delivered in an ambulatory setting include renal replacement therapy, endoscopic procedures, as well as psychiatric day services.

The two models for ambulatory care are at the ends of a spectrum. However, both have relevance to the planning of services of the new acute hospital and other hospitals in KCC.

Clinical Service Programmes

This chapter encompasses the recommendations of the ten CWGs on the service models and implementation enablers of the following cross-specialty / multidisciplinary clinical service programmes:

- Neuroscience Service
- Cardiothoracic Service
- Peri-operative Service
- Critical Care Service
- Obstetrics and Neonate Service
- Cancer Service
- Kidney Disease Service
- Musculoskeletal Disease Service
- Elderly Service
- Mental Health Service

The recommendations of the CWGs were based on the four core values described earlier, with emphasis on:

- Bringing services to patients;
- Pursuing excellence through multi-disciplinary team approaches;
- Providing services to patients from the acute setting through to the community; and
- Collaborating with other Kowloon Clusters

The membership of each of the CWGs is set out in *Appendix 5*.

NEUROSCIENCE SERVICE

Co-Chairs

Dr H M CHIU	Chief of Service (Neurosurgery), QEH
Dr Patrick LI	Chief of Service (Medicine), QEH (up to November 2013) / Honorary Consultant (Medicine), QEH (from December 2013

Recommended Models of Care

It was recommended that the neuroscience service should cater for secondary care to serve KCC patients, neurosurgical services for KEC (reflecting a continuation of the existing arrangement). Tertiary / quaternary neuroscience services could also be developed through deliberations with relevant stakeholders.

Open Model Approach

The CWG has proposed an open model approach to cater for referrals of tertiary and quaternary cases. The neuroscience service would be opened to visiting specialists having relevant expertise from other Clusters to conduct consultation, surgery and other treatment. Through this model tertiary and quaternary cases could be referred back to their referring Clusters for further management after completion of treatment, stabilisation of condition, or when deemed appropriate. Service arrangements could also be discussed for streamlining referrals of patients from the private sector. Details of the open model will require further deliberation.

Emergency Service

A designated admission ward will be established for timely management of neuroscience emergencies. After stabilisation, these cases could be channeled to different clinical programme modules according to their predominant clinical problem.

An example would be a designated stroke team, consisting of neurologist, neuroradiologist, neurosurgeon and stroke nurse. This would provide timely assessment and intervention for stroke patients on a 24-hour basis. Secondary transfer of patients in the Kowloon region for endovascular interventions could be considered, with the availability of expertise for endovascular treatment in this service provided via the open model described above.

Programme-based Service Delivery

Conditions to be attended to through specialised clinical programmes would include stroke and neurovascular disease, neurotrauma, epilepsy, movement disorder, neuro-oncology, neuromuscular, neuro-immunology, cognitive neurology and radiosurgery.

The programmes should include agreed referral criteria, management protocols, step-down and shared-care arrangements for patients. Each programme will span from in-patient and critical care through to ambulatory and community care, based on a multidisciplinary model. The programmes should be staffed by specialists with expertise in the respective area from within KCC and from other Clusters. In addition, those staff from other Clusters will continue to contribute to the secondary neuroscience services of their respective Clusters.

Service Recommendations

General In-patient Care

Wards should be designed to allow assistive technology to facilitate the care of neurologically affected patients. It is recommended that satellite rehabilitation areas should be made available in ward areas.

There will be combined wards for patients requiring joint management under Neurology, Neurosurgery and possibly neuro-oncologists, spine surgeons, radiologists and other relevant specialists.

Neuro-critical Care

Neuro-critical care will be operated in collaboration with the ICU. The HDU would be within the Neuroscience Floor for seamless and efficient transfer and management of patients.

Neuro-rehabilitation Care

Intensive rehabilitation for certain categories of patients should start as early as possible, even during ICU / HDU stay, and continued through to their return to the community. To consolidate this development, inter-hospital service alignment and community programmes should be devised, and service arrangements should be made to ensure convalescent / rehabilitation support for neuroscience patients.

Tertiary services with advanced technologies should be available for selected patients with complex rehabilitation need. Adequate space provision would be necessary for the development of various advanced rehabilitation facilities, based on clinical evidence, to cater for service demand generated by the open model.

Electrodiagnostic Service

Electrodiagnostic service is essential for the diagnosis of neurological disorders, so it is important to have good accessibility to timely specialized neurophysiological examinations. The service should cover ambulatory, in-patient and intra-operative cases. Video electroencephalography services should continue to be developed with other components of a tertiary neuroscience service.

Ambulatory Service

It will include general neurology, general neurosurgical clinics and multi-disciplinary combined clinics for individual programme such as neurovascular, epilepsy surgery, movement disorder, and radiosurgery. Specialists from other clusters with the relevant expertise can manage complicated patients at tertiary level via the open model approach. Facilities should be provided to support other ambulatory activities, follow-ups and procedures.

Radiosurgery Service

A radiosurgery suite should be established, under the joint supervision of neurosurgeons and clinical oncologists. Similarly, an open model approach will be adopted in order to maximise its utilisation and cost-effectiveness. The radiosurgery suite will be utilised by specialists with relevant expertise and credentials across the whole territory to treat their patients.

Neuropathology Service

In collaboration with Department of Pathology, the neuropathology service should be enhanced to cater for possible expansion and advancements in neuroimmunology, neuropathology and neurogenetics services.

Training and Research

There should be collaboration with the Academy and constituent Colleges to ensure that the training structure aligns with the requirements of the respective specialty. Space and equipment should be made available to facilitate teaching and training in clinical areas. With regard to research, it should be anticipated that the neuroscience services in the new acute hospital should be an active player in clinical trials, although basic science research activities would predominantly be carried out by university neuroscience units.

Information Technology (IT)

There should be sophisticated IT support to the neuroscience service for telemedicine, to facilitate consultation by experts who are off-site and to provide back-up management for patients with complicated neurological problems in other Clusters. The IT system should facilitate archiving of clinical data and other information to support clinical audit and research.

Integrated Service

Multidisciplinary subgroups should be established for different specialised programmes to define the scope of services, management protocols, facilities requirements and estimation of caseload and manpower needs. Medical manpower and expertise should be gradually built up through recruitment and training over the next five years, both in terms of numbers of on-site specialists and targeted overseas training for specialist areas.

Nursing expertise should be developed through intensive training on the care of patients with neurological and neurosurgical conditions. Subspecialty nursing in neuroscience should also be developed to support individual programme components, such as stroke nursing, epilepsy nursing for example.

Implementation Enablers

Specialist Manpower

Development of medical, nursing and allied health specialists to support the neurosciences programmes is important, especially for those services catering for patients requiring tertiary or quaternary care (e.g. electrodiagnostic and neuropsychological services).

Provision of Facilities

Hybrid OT and capabilities to cater for emergency operations and specialised intra-operative monitoring are pre-requisites to support tertiary and quaternary neuroscience services, especially in view of the need to support trauma patients. Soft spaces should also be reserved for potential future developments in the service.

Proximity of Special Facilities

Operative, radiological, HDU and rehabilitation support for neuroscience patients are key to their care and recovery. Therefore, prompt and direct access to these facilities for the neuroscience service should be incorporated into the hospital design. Satellite rehabilitation services should also be available in the Neuroscience floor in order to facilitate patients' rehabilitation and recovery.

CARDIOTHORACIC SERVICE

Co-Chairs

Dr Johnny CHAN	Chief of Service (Medicine), QEH
Dr C S CHIANG	Consultant (Medicine), QEH
Dr C C MA	Chief of Service (Cardiothoracic Surgery), QEH (up to October 2015) / Consultant (Cardiothoracic Surgery), QEH (from November 2015)

Recommended Models of Care

KCC has traditionally been strong in cardiothoracic services since their days of providing specialist services at Kowloon Hospital. Over the years, the service has developed into a comprehensive set of services covering acute and chronic cardiac and chest services with cardiothoracic surgery as the amalgamating component.

Cardiology

A key driver of the Cardiology service is the ongoing development of primary percutaneous coronary intervention (PCI) and acute myocardial infarction (AMI) clinical pathways. With central support, clinical pathways have also been progressing in the advancement of cardiac rehabilitation and ambulatory services.

Given the expanding number of coronary heart disease patients, the number of those suffering from heart failure is also rising. The development of a comprehensive heart failure service programme (acute management, heart failure surgery, ventricular-assisted device implantation and rehabilitation services), in collaboration with the Cardiothoracic surgeons, should therefore be planned.

Further development of trans-catheter interventional procedures in the management of heart diseases, such as complex PCI for management of ischemic heart disease; structural heart interventions such as transcatheter aortic-valve implantation (TAVI) and MitraClip procedures; and adult congenital heart interventions, will also help to benefit more patients and shorten their hospital LOS.

Respiratory Medicine

Respiratory service has been historically diverse, ranging from the acute care of pneumonia and airway diseases to management of chronic respiratory failure and tuberculosis (TB). With the rising awareness and significance of infections and lung cancer, there is a growing demand for isolation facilities and interventional tools. An example will be Non-Invasive Ventilation (NIV), where it has emerged as a management option for respiratory failure.

It is recommended to concentrate acute admissions and intensive, complex and interventional services at the acute hospital. Whereas admissions from the Chest Clinics, respiratory convalescent and rehabilitation services, palliative and long term ventilator care should be located at a chronic tertiary respiratory institution.

Cardiothoracic Surgery

The surgeons would work in close relation with the cardiologist and the respiratory physicians in emergency and life-threatening situations. The model requires the close collaboration of these teams to develop integrated service programmes and also to incorporate the early inclusion of rehabilitation for surgical patients. Integrated programmes should also support non-acute care as well.

Service Recommendations

Emergency Cardiac Care

The service should aim to provide fast-track chest pain care, for the diagnosis and management of patients with AMI. Future developments should focus on accelerating the diagnostic phase of these patients, through liaison with the Fire Services Department on the arrangement of pre-hospital electrocardiogram. Once in hospital, triple rule out (i.e. aortic dissection, pulmonary embolism, acute coronary syndrome) could be achieved by timely CT scans.

Cardiac Day Centre

To facilitate same day discharges for procedures and interventions, a fully equipped day ward is required. To best utilise resources, this could be co-located with nurse-led clinics in which the nurses could facilitate both services.

Cardiothoracic Surgery

Key developments include a heart failure surgery programme, left ventricular-assistive device programme, robotic assisted surgery programme, and adult congenital heart surgery programme. In view of the complexity of these programmes and the long-term care required, the CWG has recommended that care be provided through a case management approach.

Cardiac Rehabilitation

The focus of development would be on alignment with the direction of development of rehabilitation care, post-myocardial infarction rehabilitation and post-surgery rehabilitation.

Respiratory Medicine

Protocol-driven patient pathways, from acute to convalescent and rehabilitation care, would be developed. There would be collaborations between respiratory physicians and cardiothoracic surgeons in pleural disease management, pre-operative assessment and interventional pulmonology. Together with allied health professionals, acute rehabilitation, home oxygen therapy and home ventilator care programmes would be developed. There would also be developments in the management of sleep-related breathing disorders, lung cancer and allergic diseases. Patient empowerment and pre-/post-discharge assessments by specialist nurses and allied health professionals at a respiratory day-ward setting could also help to reduce hospital admissions for chronic respiratory diseases.

Implementation Enablers

Hybrid Operating Theatres

To facilitate the latest developments in transcatheter congenital and structural heart disease interventions and surgical techniques for cardiac and thoracic surgeries, hybrid theatres are required.

Cardiothoracic Floor

A Cardiothoracic floor is recommended, consisting of combined wards and procedure rooms, consultation clinic rooms, HDU, Coronary Care Unit (CCU), laboratories for other investigations such as echocardiogram, Holter monitoring, and treadmill exercise stress testing, and cardiac catheterisation laboratories. Offices of the cardiologist and the cardiothoracic surgeons should be in close proximity, or even together. Furthermore, the cardiothoracic floor should be close to, or within, the hot floors zone of the new acute hospital, with direct connection to OTs (including hybrid OTs) and radiology services, to facilitate care of critical patients. Space to facilitate the provision of early rehabilitation by various disciplines to cardiac and thoracic patients would help to support early recovery. Facilities should also be provided to support education and training activities.

Acute Respiratory Service Unit

Invasive and non-invasive ventilator services, HDU services and airborne infection isolation units could be co-located to form an acute respiratory service. These should be in close proximity to the respiratory day-ward, electro-diagnostic services and Sleep Laboratories, and also to the cardiothoracic floor and ICU. Facilities that allow delivery of aerosol-generation procedures should be available.

PERI-OPERATIVE SERVICE

Co-Chairs

Dr Donald TANG	Chief of Service (Surgery), QEH (up to October 2016) Consultant (Surgery), QEH (from December 2016
Dr Steven WONG	Chief of Service (Anaesthesiology & Operating Theatre Services), QEH

Recommended Models of Care

Emergency Service

To maximise efficiency and multidisciplinary collaboration in the management of trauma and emergency surgery, close links are required between the A&E department, radiology, ICU services and OT services.

Elective Service

OT utilisation should be maximised through comprehensive pre-operative preparation of elective surgery patients in a one-stop ambulatory setting, development of ambulatory surgery services, and dedicated post-anaesthetic care.

Service Recommendations

Hot Floors

OTs, A&E department, radiology and ICU should all be within the hot floors of the hospital, in close proximity to one another, to provide smooth and efficient patient care.

The CWG has recommended the OTs be distributed over two floors, with hybrid theatres centralised on the same floor. This would facilitate theatre management and utilisation of manpower and equipment.

A mixed specialty day admission ward, adjacent to the elective OT, would facilitate DOSA and help to minimise delays due to patient transfer.

A PACU should be available on each OT floor to provide extended care for patients after surgery. This would facilitate elective surgery planning, as well as surgeries with same day discharge. There should also be enhanced facilities for acute post-operative rehabilitation, to enable early bed-side rehabilitation and facilitate ambulatory rehabilitation.

Ambulatory Service and Preadmission Service

A preadmission service should be provided in an ambulatory care setting. It would require laboratory and radiology support to allow one-stop preoperative assessment and preparation of patients for elective surgery. It should also be a multi-disciplinary service to avoid the need for inter-specialty or inter-disciplinary referrals.

Related services to be provided in an ambulatory setting include ambulatory / day procedures and surgery, as well as pain management services.

Implementation Enablers

Inter-specialty Coordination

It is essential that the different specialties come together to discuss the service scope of the preadmission service, PACU workflow and the subsequent shared use of special facilities, such as hybrid OTs. In particular, service model changes for the preadmission service could be initiated given available resources.

CRITICAL CARE SERVICE

Co-Chairs

Dr H F HO	Clinical Stream Coordinator (Medical), KCC / Deputy Hospital Chief Executive (Professional Services) and Consultant (Accident & Emergency), QEH
Dr Anne LEUNG	Consultant (Intensive Care Unit), QEH
Dr W Y TSE	Chief of Service (Paediatric), QEH

1. Adult Service

Recommended Models of Care

Single Governance, but with Segregated Patient Streams

With improvements in the standards of care to manage patients with infectious diseases, the required capacities and capabilities of critical care services for a major hospital have changed. In view of this, the CWG suggested that critical care services be segregated into surgical and non-surgical streams. Underlying this recommendation is single ICU governance.

HDU Care

The patients in the HDUs will predominantly be under the care of the parent team, with regular input and support from the ICU team.

Service Recommendations

Management of Surgical Patients

On the one hand, for trauma and surgical patients, the aim is smooth transitions between services, given the provision of A&E department, OT, ICU and diagnostic radiology facilities in close proximity. On the other hand, for elective surgical patients, planned care through the PACU could help to alleviate pressure on HDU or ICU beds.

Management of Infectious Diseases Patients

For patients with fever and suspected contagious respiratory disease, a designated route from the A&E department to the ICU negative pressure facilities is important. Similarly, a designated route between the isolation ward and ICU isolation facilities should facilitate patient transfer between these two areas and support infection control.

Arrangement of ICU and HDUs

The CWG recommended that the ICU should function 24 hours a day and with its services under one roof; while HDUs are stacked on floors above the ICU to co-locate with their respective parent team specialty, forming an inverted 'T-shape' configuration. The benefit of the design is to enhance efficiency of service from the parent care team's perspective. This arrangement would require efficient, and if possible, designated lift connections to ensure that the ICU team can promptly attend to patients located on different floors.

Outreach Service

Continued development of the ICU outreach service within the hospital, such as for early detection of deteriorating patients, is recommended by the CWG. With the use of a contact-free remote monitoring system, the service can help identify high-risk patients in hospital wards who may require earlier treatment or ICU care.

Implementation Enablers

Connectivity

Connectivity is a key enabler of the critical care services. Vertical connections via designated lifts are essential to facilitate the transfer of patients between the A&E department, OTs and radiology facilities. In particular, this is crucial to the rapid management of trauma patients.

Coordinating Committee

The CWG has proposed the formation of a critical care coordinating committee to oversee the overall provision of ICU and HDU service in the future new hospital.

2. Paediatric Service

Recommended Models of Care

With establishment of the HKCH in the KTDA, all paediatric and paediatric-related services will be translocated. Hence, there is a need to specify the arrangements to look after paediatric patients attending the A&E department of the new acute hospital in the KTDA.

The aim is the establishment of a short-stay acute ward for paediatric cases to provide acute paediatric care and to reduce unnecessary emergency admissions to the Hong Kong Children's Hospital, without compromising patient safety.

Service Recommendations

The short-stay acute ward for paediatric cases is recommended by the CWG to be Paediatrician-led, with joint care from A&E department staff. It is proposed to have a two-tier clinical and supervisory structure. The first tier composed of staff from Paediatrics and Emergency Medicine backgrounds, whereas the second tier staffed by senior Paediatricians.

This ward should cater for continued observation of paediatric patients for up to 48 hours, with frequent re-assessment, which could be supported by a daytime fast track clinic for timely assessments.

Implementation Enablers

Training

Training should be provided by senior Paediatricians, with trainees including A&E department clinicians. To ensure credentials of practitioners in the short-stay acute ward for paediatric cases, acknowledgement of training standards would be required from the HK College of Paediatricians and also the HK College of Emergency Medicine.

OBSTETRICS AND NEONATES SERVICE

Co-Chairs

Dr C W LAW	Consultant (Paediatrics), QEH
Dr K Y LEUNG	Cluster Coordinator (Medical Records), KCC / Chief of Service (Obstetrics & Gynaecology), QEH

Recommended Models of Care

It is anticipated that the Hong Kong Children's Hospital will have a magnet effect for pregnant mothers to attend the new acute hospital, providing a distinct opportunity for obstetrics and neonatal service development.

Obstetrics Service

The service model is summarised in the following table, whereby pregnant women are categorised according to the risk of their pregnancy:

Table 1. Proposed service model for obstetrics

Risk	Antenatal care	Intrapartum care	Postnatal care	Involved Personnel
Low	Normal	Normal care Normal delivery	Normal	Residents or midwives or shared care with MCHC
Medium	Additional	Additional Operative delivery	Additional	Specialists or residents
High	Special	Special Operative delivery	Special	MFM team with specially trained doctors and midwives

MCHC: maternal and child health centre
MFM: maternal fetal medicine

The focus is on maternal and infant care, where services aim to link primary, secondary and tertiary care, as well as community-based Maternal and Child Health Centre (MCHC) care, to provide continuity of care throughout pregnancy.

Neonatal Service

This service should provide secondary and tertiary neonatal intensive and special care to sick inborn and outborn neonatal patients. There would also be facilities to cater for the follow-up of patients discharged from the neonatal service.

Service Recommendations

Maternal Fetal Medicine (MFM)

The driver for service development is MFM, which is the branch of obstetrics that focuses on the medical and surgical management of high-risk pregnancies. It requires the development of a range of services to manage fetal problems and maternal complications, utilising advanced technology and approaches, such as fetal surgery. The service should be developed in a multi-disciplinary approach, involving different specialties and disciplines. In addition, support from a Maternal Special Care Unit would be important to look after complicated cases that require round-the-clock monitoring. The service would also be supported through a day ward to manage ambulatory cases.

General Obstetrics

Obstetrics services should develop according to anticipated service volumes, with relevant technology and facilities provision. The service should be equipped to cope with infectious disease cases and obstetrics emergencies, through specialist staff and appropriate advanced technology and facilities. In addition, the service should aim to facilitate the new acute hospital to become more mother and baby-friendly, such as by supporting breast-feeding of newborn babies.

Neonatal ICU Service

Comprehensive services to be provided through a family-centered approach for sick neonates, including joint counseling and care by obstetricians, neonatologists, and other related specialists or professionals.

Implementation Enablers

Training & Manpower

Training of doctors and midwives to support the development of MFM is crucial to the success of the programme. The CWG proposed the formation of a coordinating committee to formulate, in particular, training plans for different professional groups.

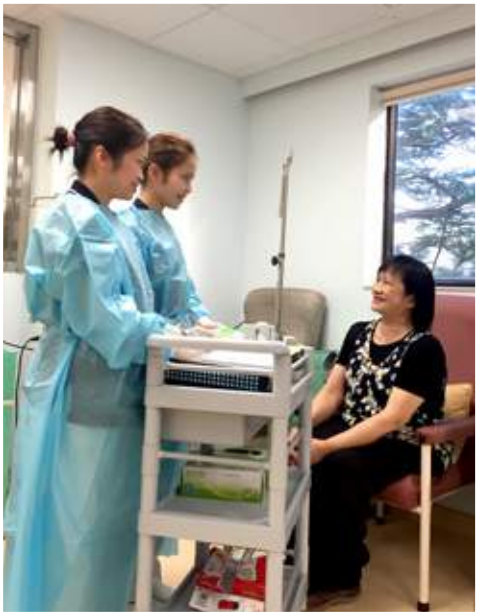
CANCER SERVICE

Co-Chairs

Dr K H KWOK	Chief of Service (Surgery), QEH
Dr K C NGAN	Chief of Service (Clinical Oncology), QEH

Recommended Models of Care

Integrated Service with Enhanced Diagnostic and Assessment Service



To expedite appropriate treatment for patients with unconfirmed cancer diagnosis, patients should be triaged to follow protocol-driven algorithms for work-up. This would require the support from a range of fast-track diagnostic procedures including endoscopy and imaging such as positron emission tomography (PET) scan, together with pathology reporting, which would contribute towards accurate and timely cancer diagnosis, staging, and treatment planning.

For all major cancers, protocol-based joint clinics should be established between surgical and oncology streams for new case consultation, cross-specialty referrals and multi-disciplinary team meetings, to facilitate patient treatment and management planning. Comprehensive medical, allied health, social and psychological patient assessment should take place well in advance and continue throughout and beyond cancer treatment. To facilitate this, case managers would support protocol-driven coordination of care to cater for patient needs.

Post-treatment Rehabilitation and Surveillance

Along the continuum of care, joint rehabilitation clinics should be developed to support patient recovery. This should be aligned with well-timed post-treatment surveillance for outcome evaluation, complications monitoring, and detection of cancer recurrences and second cancers.

Service Recommendations

Cancer Surgery

Anticipating growing demands, in particular from colorectal cancer screening, enhancement of services, such as expanded endoscopy service, advanced endoscopic or guided ablative therapies, should be facilitated for treatment and intervention of pre-cancerous and early cancerous lesions. To align with international advancements in modern cancer surgery, minimally-invasive organ-preserving high-precision cancer surgery performed in hybrid theatres with laproscopic / endo-laproscopic robotic or navigation-assisted facilities, would contribute to shorter hospital stays, improved quality of life, and better patient outcomes. Also, with advances in molecular medicine there should be close collaboration of surgical streams with oncologists and pathologists in supporting the development of personalized cancer therapy.

Radiotherapy

There should be adequate provision of well-structured radiation therapy services with capacity to meet rising demand. Access to general anaesthesia service is essential. Moreover, internal radiotherapy services and facilities, such as intra-cavity for gynaecological cancers and interstitial brachytherapy for head & neck and musculoskeletal cancers delivered by high dose rate brachytherapy afterloader should be considered. The CWG also proposed to adopt intra-arterial radioactive particle therapy, such as Selective Internal Radiation Therapy (SIRT) for liver cancers. Appropriate facilities to facilitate planning for day-patient radiotherapy should be considered.

Day Chemotherapy

The day chemotherapy service has become a high volume service, requiring designated and well-planned facilities and pharmacy support. The aim is to accommodate all oncology patients requiring day chemotherapy. Additional well-supported satellite day chemotherapy centre(s) operating in the community should be considered to bring chemotherapy service closer to patients to reduce unnecessary travel during chemotherapy.

To enhance patient safety, as well as work efficiency, there should be unified infusion protocols for the same chemotherapy or drug regimen for all indicated patients. Furthermore, an Aseptic Dispensing Unit, co-located with the day chemotherapy service, would support efficient and flexible drug ordering and delivery. Counselling by pharmacists of day-patients and out-patients receiving either oral or intravenous chemotherapy would help to enhance drug compliance.

Palliative Care

Palliative care and hospice services should be developed in a direction that facilitates smooth transitions from predominantly treatment-focused phases to end-of-life care phases. They should include pain control and psychosocial components and delivered in both in-patient and ambulatory settings.

Other Cancer-related Services

The Hong Kong Cancer Registry which provides key territory-wide cancer statistics to the HA and community at large, as well as the Cancer Research Laboratory actively engaged in translational cancer research, will continue to operate and develop under KCC.

Implementation Enablers

Functional Relationship between Services

To facilitate service collaborations, in-patient wards, day wards and clinics should be linked intelligently to endoscopy services, OTs, radiology services and other treatment areas to support patient care and efficient workflows. In addition, they should provide space for treatment rooms to support rehabilitation, interviews, family activities, and bedside medical or nursing procedures.

In-patient reverse isolation, with positive pressure high-efficiency particulate air (HEPA) filter should be available for patients with haematological malignancies and patients undergoing high dose chemotherapy, along with provision for stem cell harvest and transplant services. Single rooms should be provided for in-patients requiring reverse isolation for neutropenic sepsis following chemotherapy, and radiation protection following radioactive isotope therapies.

Integrated Care Pathway

Development of integrated care pathways is essential to support inter-specialty and multi-disciplinary cancer services, with the aim to align treatment protocols, rehabilitation plans and follow-up management.

KIDNEY DISEASE SERVICE

Co-Chairs

Dr W H AU	Consultant (Surgery), QEH
Dr K F CHAU	Chief of Service (Medicine), QEH (up to May 2016) Consultant (Medicine), QEH (from July 2016)

Recommended Models of Care

The nephrology and urology services separately manage large patient volumes. The main patient categories that the two services join together for management are renal transplantation and protocol-based pre-diagnosis work-up. As such, enhancing the interface between them would improve quality of service and reduce lead time towards definitive treatment.

Integrated Care Pathway

Both nephrology and urology specialists propose the streamlining of services via development of integrated care pathways to manage kidney diseases. With the development of protocol-based care, nurse-led clinics could facilitate the reorganisation of the service delivery model.

Ambulatory Service

Future services are anticipated to be largely ambulatory in nature. With advancements in telemedicine and ease of management of dialysis equipment, home-based therapy would be the future direction. Also, investigations and treatment for urological problems could now be handled in an ambulatory care setting. As such, with the escalating volume of patients, ambulatory urology and nephrology activities could be developed at a satellite site, as well as at the new acute hospital at Kai Tak, with the appropriate provision of manpower.

Service Recommendations

Transplantation

The transplantation service should apply the latest technologies, including robotic assisted surgery in donor and recipient operations. New transplant programmes, such as paired-kidney exchange, donation after cardiac death (DCD) should be considered. Within these programmes, early engagement for combined donor and recipient education and counseling would be an important step to improve the service.

To further enhance the service, a joint transplant clinic should be developed to facilitate communication and coordination. This cooperation could also benefit post-operative patient care, whereby both services work together as a team in a combined transplant ward with isolation facilities.

Nephrology Clinical Pathways

(i) Acute Kidney Injury

There should be adequate haemodialysis support capacity to facilitate ward-based dialysis. This could be further enhanced through the formation of a mobile haemodialysis service.

(ii) Chronic Kidney Disease

The service highlight for this programme is the development of inter-specialty and multi-disciplinary care. Nurse-led clinics would help prepare patients entering into the end stages of renal disease. Furthermore, a vascular clinic should be set up with collaboration between vascular surgeons, interventional clinicians. Credentials for future vascular or nephrology interventions would need deliberations with different stakeholders and the relevant colleges to take forward.

There should also be a focus on comprehensive rehabilitation and carer training. With developments of telemedicine, home-based renal replacement therapy with ambulatory and domiciliary rehabilitation would allow patients to live a more independent life.

Urology Ambulatory Care Service

A full range of urological investigations, including invasive methods, should be available. It should also facilitate the development of nurse-led clinics for specialised nursing care especially for urological cancer and continence services.

Ambulatory treatments should also be the direction whereby extracorporeal shockwave lithotripsy, day surgery for urinary stone and benign prostatic hyperplasia could be performed.

Implementation Enablers

Infrastructure Requirement

To facilitate implementation of the clinical pathways and inter-specialty collaboration, a nephrology service floor containing areas for wards, home-based therapy training, rehabilitation, ambulatory treatment, haemodialysis facilities, clinic and telemedicine service could be developed in close proximity to urology day surgery areas, where interventional procedures could be performed by qualified clinicians.

Furthermore, transplantation beds with isolation facilities would be required in the same location to strengthen inter-specialty collaborations.

Ambulatory Centre

Both nephrology and urology anticipate future service developments towards ambulatory care.

Full range of urological activities could be provided in a "multidisciplinary urological ambulatory care centre", including flexible cystoscopy, uroflowmetry, standard urodynamic and video-urodynamic study, bedside ultrasound, parametric transrectal ultrasound-guided prostate biopsy, extracorporeal shockwave lithotripsy, nurse-led clinics, intravesical instillation therapy, pelvic floor muscle rehabilitation, anal manometry, and pudenal nerve patency studies.

Furthermore, depending on the rise in the number of patients requiring renal replacement therapy, additional chronic dialysis facilities may be required at a satellite site. Consideration should also be given to provide all the necessary facilities at the satellite site to handle non-acute nephrology problems and support ambulatory, palliative and rehabilitation services so as to further the concept of bringing services to patients in the community.

MUSCULOSKELETAL DISEASE SERVICE

Co-Chairs

Dr M H LEUNG	Consultant (Medicine), QEH
Dr Wilson LI	Chief of Service (Orthopaedics & Traumatology), QEH

Recommended Models of Care

The model recommended by the CWG aims to tackle the different types of musculoskeletal problems that contribute to the largest patient volumes and cause of lengthy waiting times for specialist clinic appointment or surgical treatment, in the face of a growing elderly population. The primary aim is to reduce the need for unnecessary in-patient care. The secondary aim is to integrate rehabilitation and post-discharge services into the community.

Acute Service

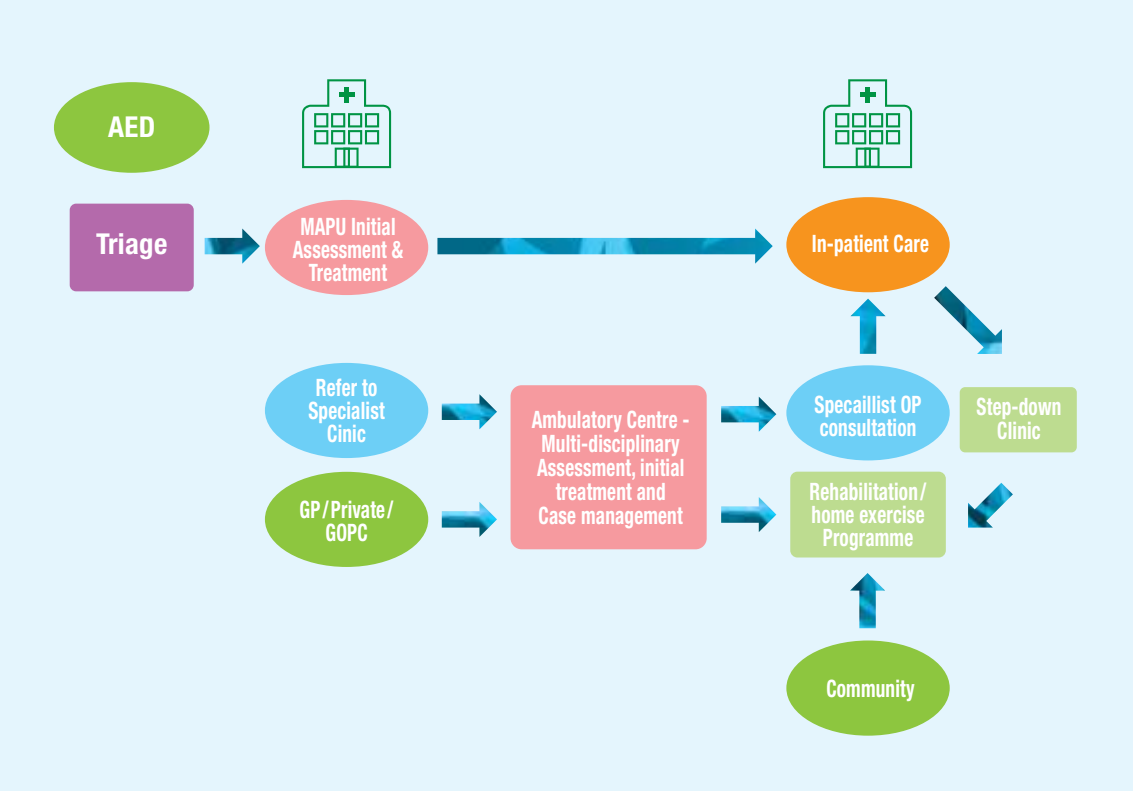
Support for care planning with the establishment of an assessment and planning unit is the recommended driver to improve care quality and efficiency. This would help to identify cases to be further managed as in-patients and expedite surgical treatment as necessary.

Non-acute Service

Patients who do not require in-patient treatment can also benefit from the setting up of the assessment and planning unit. The key would be the development of integrated care pathways, encompassing multidisciplinary care teams. Assessment protocols could be drawn up so that common musculoskeletal problems can be triaged by relevant healthcare professionals. Thus, the lead time to first assessment could be reduced since the first point of contact for a patient presenting to clinics could be a case manager assigned throughout the patient journey, such as an allied health professional or nurse, rather than a clinician, providing also initial treatment according to protocols. They could also fast track patients requiring early attention by the right specialty of doctors on detection of red-flag signs.

The overall service model for musculoskeletal disease services is shown in the following diagram.

Figure 5. Overview of service model for musculoskeletal disease services



Service Recommendations

Multi-disciplinary Ambulatory Care Service

Through the development of a multi-disciplinary ambulatory care service, patients could be offered initial treatments at a one-stop assessment, treatment and counseling centre with assigned case managers. This would serve as the first step towards diagnosis and help take care of patients from diagnosis through to coordination of long-term care.

Specialist Clinic for Joint Diseases

This requires the collaboration of clinicians (chiefly Orthopaedic Surgeons and Rheumatologists), nurses and allied health professionals through a combined clinic. The aim is to expedite clinical decision-making on diagnosis and care planning. The clinic should be equipped with the capability to perform specialist investigations, manage complex but ambulatory patients (e.g. intravenous injections of biologics) and provide other related care, such as point-of-care image-guided injection of therapeutic substance and pregnancy counseling.

Surgical Service

Elective and emergency surgical services (such as fracture repair) could be considered separately. For selected cases, elective surgery could be performed in a standalone surgical centre (e.g. joint replacement) or even an ambulatory centre (such as arthroscopy or hand surgery). The key factor to decide on the approach would be an estimation of patient load, which would be crucial for determining the sustainability of a surgical centre.

Past experience has shown that emergencies could disrupt elective surgery planning. Protecting elective surgery time, particularly for tertiary and quaternary services, within an acute hospital setting is therefore an important consideration. Additionally, theatre design should cater for multidisciplinary intervention in major trauma cases.

Assessment and Planning Unit

An assessment and planning unit is recommended, to be located close to the A&E department to expedite investigations and treatment plan formulation for patients who do not require admission.

Early and Community Rehabilitation

The scope of rehabilitation should be extended to the acute setting, whereby patients should begin therapy as soon as possible to prevent deconditioning. Furthermore, rehabilitation care should continue in the community even after the patient is discharged, to prevent recurrence of the same problem, such as falls causing fracture.

Implementation Enablers

Service Integration

An integrated service by Orthopaedic Surgeons, Rheumatologists and Geriatricians is paramount to success of the service directions described, such as the development of an ortho-geriatric ward and combined specialty out-patient clinics. It would also need the right facilities at the right place. For example, some specialised elective surgery service does not necessarily have to be located in an acute hospital if the volume is large enough to sustain a standalone centre.

ELDERLY SERVICE

Co-Chairs

Dr Mandy FUNG	Chief of Service (Rehabilitation), KH (up to May 2014)
Dr Y F MAK	Consultant (Geriatrics), QEH
Dr Gordon WONG	Chief of Service (Accident & Emergency), QEH

Recommended Models of Care

With a rising elderly population and chronic disease burden, the aim of the elderly services is to maintain the functional independence and wellness of the elderly, as well as enhance their resilience to diseases, so that they can lead healthier lives at home in the community.

Community Geriatrics Service

Elderly health and independence can be enhanced through easily accessible centres in the community, where targeted health maintenance programmes could be run to avoid hospitalisation and prevent institutionalisation.

For patients requiring admission, they should be managed by the same team of specialists from the same Cluster, upon discharge from hospital, to improve continuity of care.

Hospital Geriatrics Service

Elderly patients usually have multiple medical problems. As such, it is often difficult to treat a patient holistically under the current specialty-based service arrangement. Establishment of an assessment and planning unit would help expedite the formulation of a care plan by the right team of health care professionals and channel patients to the right place, for the most appropriate care.

Service Recommendations

Health Maintenance Programmes

Establishment of health maintenance programmes in communities, which are easily accessible to the elderly, could help reduce hospitalisation and prevent institutionalisation. These programmes would need to manage medical, psychogeriatric and cancer recovery care through protocol-based care plans. Examples of the types of care that could be provided are programmes for dementia care, falls prevention, pain management, as well as carer support. These programmes could be run by nurses or allied health professionals.

Assessment and Planning Unit

An assessment and planning unit should be established to accept admission via the A&E department and staffed with experienced clinicians with the right to book fast-track investigations and priority referrals to either specialist out-patient care or programme-based step-down care in non-acute hospitals. This could provide timely multi-disciplinary medical, nursing and allied health assessment and accurate care planning of patients and divert them away from acute in-patient admissions, which may not be the most optimal setting.

In addition, patients in the community could be directly admitted to non-acute hospitals, after assessment by community care teams, such as CGAT. This could help alleviate the workload of the A&E department and utilisation of acute beds.

Acute Care Wards

For those elderly patients who do require acute care, they should be managed in an elderly friendly environment, where appropriate equipment (e.g. lifting hoist) is available. An example of such a ward could be for the provision of an ortho-geriatric service. Elderly patients suffering from fragility fractures (e.g. hip fractures) could be cared for collaboratively by Orthopaedic Surgeons and Geriatricians, facilitating clinical decision-making and formulation of treatment plans.

Extended Care Setting

To reduce admissions to acute wards, selected cases could be transferred directly from the A&E department or community (such as from care homes) to wards in convalescent hospitals geared to perform comprehensive geriatric evaluation.

End-of-Life Care

Both in-patient and out-patient end-of-life care should be further developed. For instance, the end-of-life care in residential care homes for the elderly could be enhanced through CGAT, and through community nursing service (CNS) for community dwelling elderly.

Service Alignment Across Different Clusters

To improve post-discharge care in Wong Tai Sin and Yau Tsim Mong areas, there needs to be an alignment of the catchment areas of A&E department, CGAT, integrated care management (ICM) teams and the CNS.

Geriatric Day Hospital

Following the alignment of catchment areas of community geriatric services, it will be necessary to review the service demand for geriatric day services in the Cluster.

Implementation Enablers

Alignment of Service Coverage

Matching of service coverage and collaboration among the service teams for residents of the Wong Tai Sin district should be a priority. This is of great importance because good continuity of care could help prevent recurrent patient admissions.

Provision of Space for Health Maintenance Programmes

Health maintenance should also be a priority for development. Space provision for such services should be identified to promote different programmes to develop.

MENTAL HEALTH SERVICE

Co-Chairs

Dr Roger NG	Clinical Service Coordinator (Mental Health) & Cluster Coordinator (Clinical Research & Ethics), KCC / Chief of Service (Psychiatry), KH
Dr T K POON	Consultant (Psychiatry), KH

Recommended Models of Care

A recovery-centred approach to care was recommended. Early interventions at potential points of presentation would be the preferred model, whereby patients are channeled to multi-disciplinary assessment clinics. Subsequently, suitable patients could be further cared for in satellite community centres.

Service Recommendations

Multiple Points of Interventions

Four key intervention points are proposed. First, liaison clinics should be set up to support those groups of patients with high prevalence of psychiatric co-morbidity presenting to non-psychiatric SOPD. Second, a brief intervention clinic, an A&E department holding unit, and a special observation unit close to the A&E department to manage patients with acute psychiatric crisis. The A&E department holding unit will serve to keep patients under A&E department observation temporarily until appropriate psychiatric assessment and management can be provided. The current special observation unit will continue to be developed under a joint governance model. Third, primary care physician empowerment in the management of psychiatric patients should be enhanced. Fourth, community-based services and collaboration with other HA services and non-government organisations should be further explored.

Multi-disciplinary Assessment Clinics

One-stop, multi-disciplinary assessment clinics should be established. They are for patients requiring specialist psychiatric outpatient care, utilising evidence-based protocol driven psycho-pharmacological and / or psychological interventions to manage patients. Interim support between scheduled consultation sessions could be provided through allied health clinics.

In-patient Service

Refurbishment of the present inpatient facilities at Kowloon Hospital, with enhanced capacity should be considered to manage expanding number of psychiatric patients and the specific needs of a growing elderly population.

Implementation Enablers

Improve Staff Training on Recovery-centred Services

The recommendation was to set up a recovery training centre to enhance staff competencies in recovery-centred care and to promulgate the approach.

Enhanced Primary Care

Enhancement of primary care through the enhanced Integrated Mental health Project could help increase the volume of patients exiting from the psychiatric services.

Role Delineation

This chapter presents the roles of each of the hospitals and institutions in KCC. By aligning their service development, the delineated roles showcase how the service models and strategies set out in earlier chapters will be implemented in the respective healthcare facilities.

As mentioned in the Introduction chapter, the catchment districts of KCC will be redefined in alignment with a key recommendation of the HA Review report so as to improve the continuity of care for patients. In relation, WTSH, OLMH and KWH will be re-grouped from KWC to KCC to support the new KCC catchment districts which cover Kowloon City, Yau Tsim Mong and Wong Tai Sin districts. Furthermore, following the development of a new acute hospital in the KTDA, the services of QEH will be relocated to the new facility, thus paving the way for the redevelopment of the vacated King's Park site according to the service needs of the Kowloon region.

On the whole, hospitals and institutions in the re-clustered KCC will adopt a collaborative approach to ensure comprehensive care and enhance service linkage for patients from various resident districts. With the service network arrangement, acute services for KCC will be provided by the new acute hospital in the KTDA as well as by KWH.

An Overview of the Role Delineation of Hospitals and Institutions in KCC	
New acute hospital in the KTDA	An **acute hospital** providing services of a comprehensive range of specialties that span secondary to quaternary levels, including a neuroscience centre and an oncology centre
KWH	An **acute hospital** providing emergency care and elective services of general specialties, including non-radiation oncology and with a particular focus on ambulatory care services
HKCH	A **specialty hospital** providing territory-wide paediatric services, and serving as a tertiary referral centre for complex cases
HKEH	A **specialty hospital** providing ophthalmology services, along with a focus on ophthalmology research and training
OLMH	A **non-acute hospital** principally providing ambulatory care services and some elective in-patient services
HKBH	An **extended care hospital** providing convalescent and rehabilitation in-patient care for patients transferred from the new acute hospital in the KTDA and ortho-geriatric services, particularly in total joint replacements
WTSH	An **extended care hospital** providing convalescent and rehabilitation in-patient care for patients transferred from the new acute hospital in the KTDA, while also offering respiratory medicine, as well as infirmary services
KH	An **extended care hospital** providing convalescent and rehabilitation services for patients transferred from KWH, as well as respiratory medicine and psychiatric in-patient services
BTS	An **institution** responsible for collecting, processing and providing blood and blood products to all hospitals in Hong Kong

New Acute Hospital in the KTDA

An acute hospital providing services of a comprehensive range of specialties that span secondary to quaternary levels, with a neuroscience centre and an oncology centre

The new acute hospital in the KTDA will take a leading role in the provision of acute services by orchestrating the coordination of care across the Cluster. It will offer a comprehensive range of services spanning out-patient, ambulatory and in-patient settings, and covering all major specialties including 24-hour A&E service as well as neuroscience, cancer and cardiac services. In alignment with the relocation of services from QEH, the new acute hospital in the KTDA will serve as a tertiary referral centre, as well as a designated trauma centre. It will also offer clinical support for nearby clusters in specialised services, such as neurosurgical service. At the same time, the central administrative functions such as cluster human resources, cluster finance services and procurement services will be provided by this new acute hospital.

As part of a health precinct in the KTDA, the new acute hospital will also provide services that are complementary to the adjacent HKCH, including the management of emergency admissions to HKCH. In addition, it will form a service network with other healthcare facilities in KCC, including OLMH, HKBH and WTSH, to streamline and coordinate the patient pathways from hospital to community care, so as to facilitate patients' recovery and rehabilitation after an acute medical event.

Kwong Wah Hospital

An acute hospital providing emergency care and elective services of general specialties, including non-radiation oncology and with a particular focus on ambulatory care services

KWH will continue to provide 24-hour A&E services and specialist care for the community, especially for residents in Yau Tsim Mong district. Through the redevelopment of the hospital, KWH will develop a greater focus of healthcare services in an ambulatory setting for patients from Yau Tsim Mong district, with the provision of one-stop multi-disciplinary services for patients, in particular those with chronic and / or complex problems. Its ambulatory care centre will be the main point of contact for patients attending KWH. Moreover, KWH will establish non-radiation oncology service to support patients with malignancy, thus optimising the access and continuity of care for patients who require chemotherapy and linkage with radiation therapy centres. The hospital will also aim for enhancement of service delivery and research in traditional chinese medicine.

In addition, KWH will partner with extended care hospitals of the Cluster, particularly KH, to enhance the continuum of care for patients according to the district they reside in.

Hong Kong Children's Hospital

A specialty hospital providing territory-wide paediatric services, and serving as a tertiary referral centre for complex cases

HKCH will focus on providing tertiary services and specialty care for the referrals of complex and rare paediatric cases which require multi-disciplinary management. The hospital will be the key player of the paediatric service network in HA through a "hub-and-spoke" model, with HKCH serving as the tertiary referral centre for complex cases while the paediatric departments in other public hospitals continuing to provide emergency, secondary, step-down and community care for paediatric patients.

Hong Kong Eye Hospital

A specialty hospital providing ophthalmology services, along with a focus on ophthalmology research and training

The existing role of HKEH as a specialty hospital will carry on with a focus on providing specialised ophthalmology care for patients in KCC. At the same time, riding on the strong presence of the CUHK's Department of Ophthalmology and Visual Sciences, HKEH will continue to engage in ophthalmology training and research. It will also maintain its territory-wide eye bank services, particularly in the distribution of cornea for transplant surgeries in both public and private hospitals.

Our Lady of Maryknoll Hospital

A non-acute hospital principally providing ambulatory care services and some elective in-patient services

OLMH will focus on providing ambulatory and day services for residents in Wong Tai Sin district. Facing the challenge of ageing population, the development in the management of geriatric illnesses and chronic diseases is crucial. The hospital will leverage on its strong relationship with community partners to provide clinical services that span across hospital.

With acute care services provided by the new acute hospital at Kai Tak, the emphasis of OLMH in the provision of ambulatory and day services will be an important part of KCC service network for meeting the long term healthcare needs of the local community. In parallel to serving the local community, OLMH will collaborate with other hospitals in Cluster to enhance the service network of in-patient, surgical and other subspecialty services for KCC. Further integration of training and rotation for staff can be enhanced within the service network.

Hong Kong Buddhist Hospital

An extended care hospital providing convalescent and rehabilitation in-patient care for patients transferred from the new acute hospital in the KTDA and ortho-geriatric services, particularly in total joint replacements

HKBH, together with WTSH and OLMH, will form a service network with the new acute hospital in the KTDA to streamline the patient pathway from hospital to community care as well as enhancing the integration from secondary to primary care. HKBH will also continue to provide total joint replacement for elderly patients, as part of its ortho-geriatric service. The service capacity of HKBH will be enhanced after the major refurbishment project, so as to fulfil its role in convalescent and rehabilitation support in KCC. Its palliative care services will also continue.

Tung Wah Group of Hospitals Wong Tai Sin Hospital

An extended care hospital providing convalescent and rehabilitation in-patient care for patients transferred from the new acute hospital in the KTDA, while also offering respiratory medicine, as well as infirmary services

WTSH, together with HKBH and OLMH, will partner with the new acute hospital in the KTDA to support patients in receiving convalescent and rehabilitation care, especially for residents in Wong Tai Sin district. At the same time, the role of WTSH in respiratory medicine will continue. It will also carry on with providing infirmary and palliative care services.

Kowloon Hospital

An extended care hospital providing convalescent and rehabilitation services for patients transferred from KWH, as well as respiratory medicine and psychiatric in-patient services

KH shall retain its current diverse role in providing convalescent and rehabilitation services, as well as services in respiratory medicine across in-patient, out-patient and day-patient settings. In addition to providing gazetted psychiatric ward for the whole Cluster, KH will also continue its in-patient and ambulatory mental health services. Besides receiving patients from KWH, KH will also take care of patients who have specalised rehabilitation needs from other hospitals in the Cluster.

Hong Kong Red Cross Blood Transfusion Service

An institution responsible for collecting, processing and providing blood and blood products to all hospitals in Hong Kong

BTS will continue to provide territory-wide service in collecting, testing and supplying blood and blood products for clinical transfusion in all public and private hospitals. The institution will also continue to provide specialised services in quality assurance for blood banks in the territory.

In addition, BTS will continue to maintain and operate the Hong Kong Bone Marrow Donor Registry, providing tissue typing for both patients in need of bone marrow transplantation and marrow donors. It will play an important role in community engagement and organising promotional activities, to ensure an adequate supply of blood and blood products for Hong Kong.

Way forward

With the re-grouping of WTSH, OLMH and KWH to the new KCC, the Cluster will continue to explore initiatives within the new KCC to enhance service quality for residents in its catchment area. The role delineation of individual hospitals set out in previous paragraphs will form the basis in future service organisation.

The aim of service re-organisation is to enhance accessibility and continuity of care for patients, while concentrating clinical expertise and optimising the use of facilities in the Cluster. For example, KCC will work toward a single waiting list for clutser-based clinical service such as the orthopaedic joint replacement surgery. In terms of ambulatory care services, KWH will continue to serve patients from Yau Tsim Mong district, while OLMH and HKBH will be responsible for residents in Wong Tai Sin area. New referral arrangement will be established for services such as spinal rehabilitation. Staff rotation between hospitals in new KCC will be organised according to the training needs and in parallel with the advancement in clinical services.

Service reorganisation and realignment is a complex process with different stake holders involved. KCC management will continue to lead the discussion across different disciplines and specialities.

The New Acute Hospital at Kai Tak

SERVICE PROVISION

The new hospital in the KTDA will be an acute hospital, providing a comprehensive range of acute hospital services, with modern service models, technology and facilities. It will have A&E services, be a designated trauma centre and provide enhanced neuroscience services. The hospital will accommodate in-patient, out-patient and ambulatory services, and provide services to support the adjacent HKCH. The hospital will be characterised by high technology, sophistication and diversity, incorporating contemporary models of care.

The new acute hospital will be part of a health precinct in the KTDA, occupying two sites in juxtaposition next to the HKCH. It will be physically linked to HKCH and where appropriate share facilities. There will be opportunities to achieve collegiality, greater amenity for patients and staff, and to enhance partnerships with patients and the community, such as with voluntary and non-government organisations.

The hospital will also be characterised by a high level of integration of facilities and services, which will support coordinated and multi-disciplinary care. At the same time, it will also provide identity for department / specialty-based services and programmes.

Key recommendations by departments in KCC on the service highlights and design implications for the new acute hospital are outlined below. The summaries are not intended to be exhaustive, but distill the key features for each department.

Accident and Emergency

Service Description

The A&E department will provide 24-hour service to the community and be a major trauma centre. It is the "front-door" of the hospital and will manage large patient volumes. The A&E department will need to cater for all patient groups and emergency conditions and have the ability to manage major incidents with multiple casualties.

Streamlining patient flows will therefore be a key imperative to managing service demand, including provision of EMW, under the emergency physician, to support short-stay observation and assessment of patients and to reduce the need for in-patient admission. For patients requiring short-stay specialist assessment, short-stay wards, such as the MAPU and the short-stay acute ward for paediatric cases, will be available for rapid patient assessment and management and where necessary expedited transfer to in-patient services. For efficient patient transfers into, through and out of the A&E department and short-stay wards, good connectivity will be essential.

Radiology and pathology services will also be readily accessible for timely diagnosis, as will priority access to OTs and ICU, the labour and delivery ward, as well as acute intervention facilities for timely treatment.

Finally, the A&E department and EMW will provide EOL services and support to relatives and carers of patients.

Design Implications

The A&E department will be located on the hot floors of the hospital and have good access to the OT, ICU, labour and delivery ward, as well as other facilities for acute interventions, to support rapid and efficient patient care and management. The A&E department will be characterised by enhanced layout and cubicles for better patient flow and visibility, and with designated bays to support management of critical and serious conditions. Good proximity to short-stay wards and observation areas will be essential to minimise patient transfer times.

The A&E department will have child and elderly-friendly areas, to help provide for a safe environment. In addition, there will also be designated areas for psychiatric observation and assessment, isolation facilities and ability to segregate patient areas for infection control.

Flexibility in design and capacity in the A&E department will enable rapid conversion of areas for responding to major incidents such as mass casualty events. This includes enhanced decontamination areas outside the A&E department, as well as flexible infrastructure and space within the hospital to facilitate incident management, including streamlining work flows and patient segregation.

To cater to EOL care, there will be designated areas within the A&E department and short-stay wards for patients approaching EOL and rooms to support relatives, carers and provision of bereavement services.

Anaesthesiology and Operating Theatre Services

Service Description

The Department of Anaesthesiology and Operating Theatre Services will offer a comprehensive scope of services ranging from anaesthesia care and OT, OT sterilisation, sedation, trauma care, resuscitation, intensive care and pain management. Services will cater for surgical day-patients, as well as cases requiring in-patient overnight stay. Patients will be managed through a comprehensive peri-operative programme, including pre-operative preparation and assessment clinics, day-of-surgery admission, post-operative care and enhanced recovery after surgery. A PACU will provide high dependency care for patients post-operatively, with transfer of patients to either in-patient wards for step-down care or the ICU for more intensive care.

Design Implications

Consolidation of OTs will support economies of scale and management of patients, together with close proximity to the peri-operative ward, to facilitate efficient patient transfers as part of the peri-operative programme. In relation to other hospital services, good functional proximity of the OT, peri-operative wards and PACU with the rest of the hospital will be essential for patient flow, especially emergency patients presenting to A&E department requiring surgery, as well as those patients requiring transfer to the ICU post-surgery. In addition, radiology and pathology services, as well as Blood Bank, will need to be in good proximity to the OT to be readily accessible for patient care.

For day-patients, clearly visible and dedicated facilities for reception to the peri-operative ward, post-surgery / procedure recovery and waiting in an ambulatory setting will support patient experience front-of-house, but with seamless integration of services back-of-house for efficient workflows.

There should be facilities to cater for isolation of infectious surgical cases.

Cardiothoracic Surgery

Service Description

As one of the three centres in the territory for the surgical management of heart and lung diseases, the department will accept referrals from across the Kowloon region for both elective and emergency procedures.

Cardiothoracic services will be organised on a programme-based model of care, whereby cardiologist, cardiothoracic surgeons, nurses and related allied health professionals will operate collaboratively to provide a holistic and integrated service to patients. Case management would help to support the coordination and streamlining of patient care. Along the patient pathway early initiation of rehabilitation will be important to support patient recovery and discharge.

Design Implications

To support the service direction the cardiothoracic service will be co-located as a programme-floor, adjacent to the hot floors of the hospital, to facilitate provision of acute interventions such as primary PCI for STEMI patients, and rapid transfer of patients among A&E department, OT, and ICU.

Facilities on the programme-floor will include cardiac catheterisation laboratories, echocardiography and other diagnostic units, in-patient wards, CCU for cardiology and cardiothoracic surgery, and consultation clinic facilities.

There will also be good access to the OTs (including hybrid theatres), with emphasis on enhancing minimally invasive cardiac and thoracic surgery.

Clinical Oncology

Service Description

The Department of Clinical Oncology will provide non-surgical treatment, including radiotherapy, chemotherapy, and palliative therapy. The service will emphasise integrated holistic pathways from diagnostics and treatment, through to palliation. In particular, shifting oncology service delivery towards more ambulatory settings is aimed at supporting patient-centred care.

Enhancements from the current KCC service will include (i) development of clinics for high risk cases, with surgical specialties for fast-track diagnostic procedures and imaging, together with pathology reporting, (ii) enhancing radiotherapy, such as high precision and tissue preserving therapies and development of internal radiotherapy services, (iii) enhancing the day chemotherapy service and pharmacy support, such as an aseptic dispensing unit, (iv) development of in-patient wards to cater to needs of cancer patients, for example reverse isolation and radiation protection, (v) nurse-led clinics to support patient discharge and follow-up, as well as (vi) enhance palliative and EOL services, including pain control, psycho-social support, in-patient, out-patient and day facilities.

The clinical oncology department will collaborate with other teams for joint clinics, which the new hospital should help to strengthen. Also, a Cancer Patient Resource Centre will help to provide patient and carer education, empowerment, peer support and linkage to the community.

Design Implications

Oncology services should have convenient and easy access for cancer patients and their families and cater to their special needs, including providing privacy, dignity, comfort and safety. Such facilities would include isolation, private, interview and treatment rooms. In addition, given immuno-compromised cancer patients, the service arrangement and design within the hospital itself (including ambulatory and in-patient settings) would be important.

Rapid access to radiology and pathology services will require good connectivity to support efficient patient care. In the day-chemotherapy setting, on-site pharmacy for cytotoxic drug preparation would support efficient workflows, whereas different areas and private space for patients to receive chemotherapy would help enhance patient-centred care.

Ear, Nose and Throat

Service Description

The Department of ENT will provide a broad-based service for ENT, audiology and speech therapy. The in-patient service will provide diagnosis and treatment of ENT diseases along with 24-hour consultation to other specialties. Out-patient services will include urgent and non-urgent consultation and surgery under local anaesthetic. Development of minimally invasive procedures and endoscopic procedures will help support ambulatory models of care. Service enhancements areas include surgery for head and neck cancers, sleep apnea surgery and surgery for salivary gland disease, facial plastic surgery, reconstruction and scar management. The service is anticipated to move towards more ambulatory modes of service delivery, with greater emphasis on day surgery, involving greater collaboration with the anaesthesiology and OT service.

Design Implications

With greater shift towards more ambulatory modes of care, there will need to be sufficient space for consultation and multi-disciplinary collaboration in the ambulatory zone, as well as access to facilities to support day-procedures and out-patient care.

Family Medicine, General Out-patient Clinics and Services for Civil Service Eligible Persons

Service Description

The Family Medicine (FM) services, GOPCs and services for Civil Service Eligible Persons (CSEP) will continue to be provided in KCC.

FM services in KCC are mainly delivered in the community setting under GOPCs and Family Medicine Specialist Clinic (FMSC). The GOPCs provide primary care services to the general population of KCC catchment area whereas the FMSC aims to reduce the burden on SOPC services through gate-keeping and to facilitate the continuity of care of patients in the community through collaborations with other clinical departments.

The HA Staff Clinic (HASC) is another service currently provided in KCC to cater for all HA staff. In particular, the occupational medicine care service has been established to offer care to staff with on-duty injuries. QEH also currently houses three designated CSEP services, namely CSEP imaging center, CSEP SOPC service and CSEP injury-on-duty service.

Design Implications

There should be good accessibility to FMSC, HASC and services for CSEP given their significant patient volumes. In addition, facilities and services should be age-appropriate with elderly friendly features and facilitate multi-disciplinary models of care and collaboration in order to cater for the growing ageing population and increasing number of patients with chronic diseases.

Intensive Care Unit

Service Description

The ICU will provide critical care services to all adult patients in the hospital; in particular the trauma service, ECMO service and ventilator support. HDU under surgery, neurosurgery, cardiothoracic surgery and CCUs will be co-located with the specialties, but with good connectivity to facilitate collaborative support with the ICU. This will also help to eliminate scattered ventilators in the wards.

Outreach programmes will be enhanced in the hospital, such as the early detection of deteriorating patients, to support early intervention and intensive care.

Design Implications

The ICU will be concentrated within the hot floors zone of the hospital to support rapid and seamless patient care across departments, such as A&E department, OT, and radiology.

A central workstation, with peripheral bed distribution in the ICU, backed up with clinical information systems, will support patient monitoring and care.

The ICU will be of sufficient capacity to cater to rising demand, new equipment technology, and incorporate adequate isolation facilities for infection control. Also, given the increase in demand of autologous bone marrow transplant and chemotherapy for solid organ malignancy, enhanced reverse isolation facilities will be available.

Medicine

Service Description

A comprehensive range of sub-specialties will be provided, including cardiology, critical care medicine, endocrinology, gastroenterology and hepatology, haematology, geriatrics, infectious disease, medical oncology, nephrology, neurology, respiratory medicine and rheumatology. Furthermore, 24-hour services will also be provided, such as thrombolytic therapy for stroke. Services will also continue to be extended to KH and HKBH. The dual function of physicians in catering for specialty and general medical service will be enhanced, with full-time specialty practice for a small proportion of staff and for defined duration.

The medical subspecialties will aim to provide patient-centred, pathway-based care, with multi-disciplinary collaborations, spanning secondary, tertiary and quaternary services. For some sub-specialties, such as cardiology, neurology and nephrology, enhanced collaboration with surgical specialties, such as cardiothoracic surgery, neurosurgery and urology, and with related disciplines, will create comprehensive programme-based service delivery.

The medicine sub-specialties will support rapid streamlined assessment of patients from the A&E department, such as through the MAPU. For acute emergency intervention services, such as primary PCI for STEMI, these will be enhanced, such as through extended service hours and CCU support. Similarly, 24-hour acute stroke care will be enhanced through development of hyper-acute stroke teams, and an acute stroke ward, supporting cross-specialty and multi-disciplinary collaborations for rapid patient assessment, therapy and neuro-intensive care.

Rehabilitation services will be enhanced to support early mobilisation and ambulation. In addition, enhanced palliative care and EOL care services will be developed, especially for cancer patients and patients with end-stage organ failure.

A significant amount of care is anticipated to be provided in ambulatory settings, such as investigations, consultations and procedures. Examples include respiratory support, rheumatology assessment and treatment, renal dialysis, electro-diagnostics for cardiology and sub-specialty rehabilitation.

Design Implications

In-patient areas will be age- and gender- appropriate, possess good layout and facilities for infection control (including isolation facilities and areas for cohorting), and be of sufficient flexibility and capacity to cope with surges in demand, such as during winter peaks. Designated wards to cater for patients on mechanical ventilators, special isolation facilities with positive pressure and HEPA filter for patients with haematological malignancies and bone marrow transplant, as well as rooms for EOL care are some of the facilities requirements that should continue to be provided.

For some sub-specialties, they will be arranged on programme floors for optimising patient-centred care and efficient arrangement of facilities. Good connectivity and linkage across different zones and services of the hospital will be important for timely patient care and efficient workflows, such as access to diagnostic and interventional procedures. This is of particular importance for the provision of acute intervention services to emergency patients from the A&E department.

Ample space and facilities within the in-patient setting for supporting early rehabilitation and mobilisation will be important to enhance patient recovery.

Good proximity of ambulatory-based services, with their respective in-patient specialty areas, would help to support efficient workflows within the hospital, whilst streamlining patients to the most appropriate setting for their care.

Neurosurgery

Service Description

The Department of Neurosurgery will provide tertiary referral services. Neurosurgery will be a key specialty of the neurosciences services that will be grouped and coordinated as a neuroscience centre for the provision of acute emergency and elective care. Services will be highly integrated with the rest of the new acute hospital for smooth operation.

The neuroscience centre will allow for concentration of complex caseloads and expertise in a designated area, with state-of-the-art facilities for timely management of patients with neurological diseases and support collaborations for consultation, surgery and other treatments. Secondary, tertiary and quaternary neuroscience services will be provided at the new acute hospital, also supporting the other hospital specialty / discipline services. For example, the neuroscience service will play a key role in the trauma service of the new acute hospital. In addition, the neuroscience centre will support the HKCH through its highly specialised facilities and equipment, such as radiosurgery, PET, nuclear medicine and intra-operative MRI.

Neuroscience services will be delivered through programme-based neuroscience modules, run on a multi-disciplinary model with relevant specialists and disciplines, based on agreed referral and management protocols and pathways. In addition to neurology and neurosurgery, specialised services will be provided collaboratively, such as neuro-critical care, neuro-rehabilitation, neuro-pathology, neuro-radiology, neuro-oncology, neuro-physiology. These will require good access and functional relationships to highly sophisticated intervention, treatment and diagnostics facilities and modalities in the new acute hospital.

Design Implications

Running on the concept of an institute, the neuroscience centre would facilitate its services to operate as a distinct entity in the front-of-house, while sharing all the support network of the hospital at the back-of-house, such as laboratory support, diagnostic radiology and imaging, and pharmacy services.

Maximising large floor plates at the new acute hospital will be important to the development of the neuroscience service, which will help to accommodate all the activities on the same floor. This will include in-patient wards; consultation, investigation and treatment areas; rehabilitation; and provision for out-patient and ambulatory care. In addition, the positioning of neuroscience with the hot floors will be important to support close collaboration and access to priority services, such as OTs and imaging, as well as provision of time-critical acute interventions, such as for stroke.

Obstetrics and Gynaecology

Service Description

The Department of O&G will provide a comprehensive O&G service to the community, including general obstetric and gynaecological services, as well as subspecialty services, such as gynaeoncology, urogynaecology, reproductive medicine and MFM. The department will develop its 24-hour MFM team to cover referrals from inside the hospital and from outside. This will include a MFM day ward for ambulatory care. Furthermore, a maternal special care unit will provide in-patient care for acutely ill pregnant women or those with adverse foetal conditions.

Design Implications

The labour ward at the new acute hospital will include special care beds with HDU facilities, isolation facilities for infection control, and obstetric theatres for caesarian section and foetal surgery. In addition, direct access to hybrid OTs and close proximity to the main OTs, as well as adult ICU, will be important for service support. There should also be close proximity to the neonatal intensive care unit (NICU) for rapid transfers.

The general obstetrics wards will feature a baby tagging system and offer space, privacy, and areas for breast-feeding and baby rooming-in. Close to the maternity wards, a gynaecology ward would facilitate management of early pregnancy complications.

Collectively these services could be co-located on a maternity floor; however arrangement of services should strike a balance between the sensitivities and needs of different patient groups with efficiency of service.

Similar to other specialties, a large proportion of assessments, consultations and interventions / procedures can be carried out in ambulatory settings for both O&G, which will help manage in-patient demand. The hospital will aim to be a baby- and family- friendly hospital. Finally, there will be good connectivity of the obstetrics service with the adjacent HKCH, for support.

Ophthalmology

Service Description

Ophthalmology services at the new acute hospital will be provided by clinical teams from HKEH and include general ophthalmology consultations to the A&E department and other specialties in the new acute hospital. In addition, services include emergency operations for eye trauma or other eye emergencies, complicated ophthalmic surgeries for in-patients and day-patients, and laser treatments. There will be service collaboration with medicine, anaesthesiology, neurosurgery, ENT and oncology services for enhanced patient management. With developments in technology, more minimally invasive procedures will support enhanced ambulatory eye surgery, which include pre-operative care, major and minor ophthalmic surgeries done under local anaesthetic and post-operative care.

Design Implications

Good functional access to diagnostic and interventional radiology and pathology services are important.

Special consideration should be given to the location and layout of the service and accessibility for elderly patients and other patients with poor vision.

Oral Maxillofacial Surgery and Dental

Service Description

Specialist oral and maxillofacial surgery services will be provided for the management of diseases of the jaw; and general hospital dentistry for dental treatment as part of overall medical treatment. This will require good inter-disciplinary collaboration with other specialists, such as with Clinical Oncologists, Head and Neck Surgeons, Plastic Surgeons, ENT Surgeons, Opthalmologists, Pain Specialists, and Cardiologists. Services will include pre-treatment dental management, functional dental rehabilitation and post-treatment long-term dental follow-up to enhance quality of life.

Design Implications

Specialist Oral and Maxillofacial Surgery for the management of diseases of the jaw will require dental-maxillofacial imaging facilities and maxillofacial prosthetic services, as well as access to specialist procedure rooms.

Orthopaedics and Traumatology (O&T)

Service Description

A comprehensive O&T service, covering acute and chronic orthopaedic problems and post-operative rehabilitation programmes. The department will also extend its services to HKBH, through its Joint Replacement Centre. Examples of the sub-specialty services to be provided by the department include joint replacement, musculoskeletal tumour, orthopaedic trauma, sports medicine, spine services, hand and microvascular services, and foot and ankle services. In particular, there will be strong collaboration with the cancer service for musculoskeletal tumours. Key enhancements to the O&T service will include development of robotic surgery, computer navigation, minimally invasive surgery, day surgery services and day of surgery admissions. The specialty will integrate into the MAPU service model for prompt patient management and short-stay care. Also, a number of procedures can be carried out in ambulatory settings, including diagnostics, surgery and rehabilitation, with out-patient referral triage to provide initial assessment and treatment.

Design Implications

Multi-disciplinary approaches to patient management, such as for major trauma, mean the service will need good access to a range of hospital facilities, such as diagnostic imaging and OTs; and to facilities which support multi-disciplinary intervention for polytrauma patients.

The design of the hospital will need to cater for significant allied health collaboration for rehabilitation, both in the in-patient and out-patient setting.

Paediatrics

Service Description

Development of the paediatrics service will have to be considered under the context of the establishment of the HKCH and concurrent deliberations of the paediatric service model in HA.

It is anticipated that for the new acute hospital, secondary, tertiary and quaternary paediatric services will be provided by the HKCH. However, acute paediatric patients are anticipated to present to the A&E department of the new acute hospital. A short-stay paediatric ward providing built in fast-track clinic service will serve children with acute general paediatric conditions. This ward will support prompt patient assessment and short-stay management, and help minimise unnecessary admission to the in-patient services of the HKCH. A fast-track clinic will cater to referrals that warrant an early but non-urgent assessment. An NICU and special care baby unit (SCBU) will serve babies born in HA in KCC, as well as neonatal referrals from outside HA hospitals in KCC. For critically ill, or paediatric patients requiring in-patient admission, they will be transferred to the HKCH.

An Adolescent Medical Centre (AMC) will be a full-time ambulatory multidisciplinary facility for the holistic care of adolescents' bio-psycho-social needs and can be provided in the ambulatory zone of the hospital.

Design Implications

There should be separate space for children and adolescents in the A&E department, which provides a safe and family-friendly environment. The short-stay acute ward for paediatric cases should be in close proximity.

The NICU should be in close proximity to the labour suites and obstetric OT. In addition, good physical linkage with the HKCH will be essential.

Pathology

Service Description

The Department of Pathology will provide a range of clinical laboratory services that cover anatomical pathology (including cytopathology), chemical pathology, haematology (including blood bank), medical microbiology, immunology, cytogenetics and molecular pathology. The department will operate a core laboratory concept with an integrated 24-hour rapid response chemical pathology, haematology and blood bank service.

Enhancements from the current pathology service will include development of a comprehensive molecular pathology service for the clinical management of cancers, inherited and infectious diseases for adults, and as back-up to the HKCH. Newer technologies (microarray and next generation sequencing) will enhance the molecular genetics service, for which demand is expected to rise. Enhanced mass spectrometry technology will also support specific hormone / tumour marker studies for personalised care and treatment decisions.

Good access to diagnostics will be essential for many clinical specialties in the hospital. Therefore 24-hour rapid response and urgent diagnostics services will need to be strategically positioned within the hospital. The pathology service will also need to support the shift towards more ambulatory service delivery, for example, a Fine Needle Aspiration Clinic in SOPC areas.

Design Implications

A well-planned design for interconnectivity with clinical areas, strategically located specimen collection points, shortest possible distance transport logistics, as well as information technology-supported specimen reception and storage are important considerations within the hospital.

Adequate storage space will be required for slides and paraffin blocks to meet laboratory accreditation standards.

For microbiology, relevant biosafety laboratories will be required for a safe and comprehensive service.

For mortuary, a quiet room and ceremony room would enhance bereavement services.

Radiology and Imaging

Service Description

The Radiology and Imaging Department will provide radio-diagnostic services such as radiography, fluoroscopy, ultrasound scanning, CT, MRI, angiography, mammography and nuclear medicine. The Department will also provide comprehensive interventional radiology services and a 24-hour emergency service, including support to the trauma service.

As part of the multidisciplinary care team, the department will be at the forefront of the patient care pathway, to facilitate early diagnosis and management at the new hospital. In addition, a significant proportion of service is expected to be delivered to specialist out-patients and other ambulatory patients.

Design Implications

There will be good physical and functional access to radiology and imaging services such as CT and MRI supporting the "hot floors", particularly for A&E department, the EMW and other short-stay wards, for timely imaging and interventional procedures for emergency patients. For ICU and OT, there will be direct access to imaging, including through intra-operative imaging set-ups in hybrid theatres.

A satellite radiology and imaging service in the ambulatory zone of the hospital would help support high patient volumes, for diagnostic and therapeutic procedures.

Future development of high technology diagnostics and treatment modalities is anticipated, for example PET-MR. Therefore it is recommended for facilities to be future-proofed through soft-space to support planned introduction of new technology.

Surgery

Service Description

A tertiary referral centre for general and specialised surgery, with expertise for a range of surgical services, including: Hepatobiliary and Pancreatic, Head and Neck, Burns, Upper gastrointestinal, Vascular, Trauma, Lower gastrointestinal, Breast and Urology, and for Vascular anomalies. The department will have an important role in the collaborative multi-disciplinary care of patients, and supports patients across the pre-operative period, operative, through to post-operative recovery. In particular, the enhanced close collaboration between surgical specialties and clinical oncology will be especially important in the care and management of cancer patients.

Within the new acute hospital surgical facilities will include designated surgical wards for in-patient management. These will tie in with the peri-operative service model to support patient care and will be important for enhancing same day surgery.

With increasing minimally invasive surgery and advances in procedures, there is anticipated to be an increasing shift towards more day surgery and reduced lengths of time for patient recovery. For example, a number of urology investigations and procedures can now be carried out in an ambulatory setting, such as flexible cystoscopy, uroflowmetry, and lithotripsy.

To support early patient recovery, rehabilitation services in both the in-patient and out-patient setting will be important to support timely mobilisation.

Design Implications

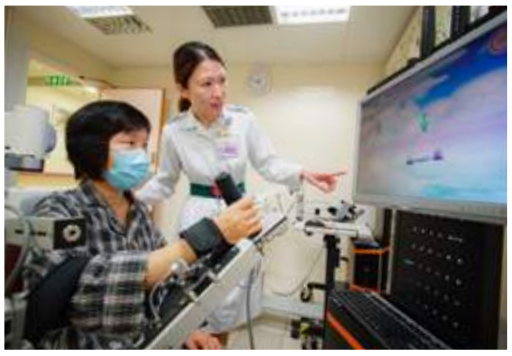
There needs to be good linkage between surgical wards, the OTs, ICU, and facilities supporting the peri-operative service. Wards incorporating sufficient space and facilities will help integrate patient rehabilitation at bed-side, as well as in other nearby areas.

Facilities are also required to enable surgery and other procedures to be undertaken in an ambulatory out-patient setting.

Allied Health

Service Description

The Allied Health Department will provide comprehensive in-patient, out-patient and community outreach services for developing and optimising the functions of patients. Services will include audiology, clinical psychology, dietetics, occupational therapy, physiotherapy, podiatry, prosthetics and orthotics, speech therapy, and medical social services.



Through protocol driven, multi-disciplinary and inter-disciplinary models of care, allied health services will aim to meet the physical-psycho-social-occupational needs of patients. Covering secondary to specialised tertiary care, allied health services will play a fundamental role within new models of care to support early interventions, safe and timely discharge, as well as support for independent living in the community, and to help to manage service demand.

Design Implications

To support the provision of rehabilitation in in-patient areas, sufficient space and consultation rooms, as well as equipment and storage, in close proximity will be essential. For ambulatory settings enhanced facilities and space to cater for the various rehabilitation programmes and patient education and empowerment activities will also be important for flexible and coordinated care. In addition, hydrotherapy and gymnasium facilities should continue to be provided, although the design specification, such as the ceiling height of the gymnasium should be reviewed for more optimal and effective use of space.

Pharmacy

Service Description

The Department of Pharmacy will operate 24 hours a day throughout the year and will be responsible for the hospital's pharmaceutical procurement, comprehensive dispensing and drug information service. It will support all clinical specialties, clinics and wards requiring pharmaceutical supply and services, for example, the aspetic dispensing service for chemotherapy drugs, intrathecal, epidural and intravenous injections. The department has collaborations with specialties and increasingly pharmacists are participating as part of multi-disciplinary teams, such as for drug review and advice for patients taking multiple medications, and provision of patient education programmes, such as for cardiac patients. Pharmacists with appropriate training and qualification will provide clinical pharmacy services to the department of clinical oncology and department of paediatrics. Clinical pharmacy services will continue to be developed to meet the needs of clinical specialties.

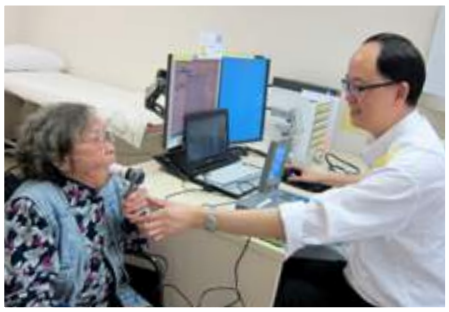
Design Implications

Pharmacy department design should cater for automation technology and electronic drug dispensing and management. There should also be satellite pharmacy provision within the hospital to support patient care.

Aseptic dispensing suites with good proximity to the oncology and other relevant services should be provided to support the preparation of chemotherapy drugs and other high risk medications, such as epidurals, total parenteral nutrition, eye preparations and other intravenous injections. This will enable efficient and flexible drug ordering, preparation and dispensing in a safe and controlled environment.

Clinical Supporting Services: Electrographic Diagnostic Service

Service Description



Various electrographic diagnostic services are currently provided in QEH for in-patient and out-patient neurological, cardiac and pulmonary examinations. This includes referrals to the service from the cluster hospitals.

In the new acute hospital, the electro-diagnostic service will co-locate with the respective departments / clinical programmes to support their developments. For example, with enhanced neuroscience services at the new acute hospital, the electro-diagnostic service will support specialised neurophysiological examination, including diagnostic neurophysiology studies, intra-operative electrophysiology, electroencephalography and transcranial doppler, as well as telemetry services for epilepsy surgery evaluation. The electro-diagnostic service will also support further developments in the management of sleep-related breathing disorders, lung cancer and allergic diseases in Respiratory Medicine.

Design Implications

To support efficient workflows, electro-diagnostic services should be located with good accessibility and designed to cater for both in-patients and out-patients.

IT infrastructure to support the electro-diagnostic service on clinical data management, with data archiving will be important, and should be readily accessible in this future hospital.

Clinical Supporting Services: Combined Endoscopy Unit

Service Description

The Combined Endoscopy Unit will provide various endoscopy services for examination and investigation to both in-patients and out-patients, including Oesophagogastroduodenoscopy, Colonoscopy, Endoscopic Retrograde Cholangiopancreatogram, Capsule Endoscopy, Bronchoscopy, Medical Thoracoscopy, Anorectal Manometry, Oesophageal Manometry, 24-hour Oesophageal pH Study, Urea Breath Test, Fiberoptic Endoscopic Examination of Swallowing with Sensory Testing.

The endoscopy suite in the new acute hospital will be equipped with state-of-the-art endoscopic equipment for procedures involving gastrointestinal, hepatobiliary and respiratory systems. Apart from procedures with conscious sedation, the hospital will also cater for more complicated procedures under general anaesthesia (GA) or monitored anaesthesia care (MAC), such as endoscopic submucosal dissection (ESD), enteroscopy, endobronchial valve, and bronchial thermoplasty.

Aligning with future trends of ambulatory models of care, and to cater for expanding service volumes, a significant amount of the endoscopy services is anticipated to be provided in ambulatory settings.

Design Implications

The combined endoscopy unit should have good proximity with in-patient and out-patient areas to help support efficient patient / work flows within the hospital. For example, good functional access with acute and day wards, ICU and OTs would help support efficient patient and equipment transportation, especially during emergencies. There should be sufficient reception and recovery areas. The possibility of having a satellite endoscopy service in the ambulatory zone, with appropriate access to supporting facilities, could be considered if the total volume of procedures justifies this operational model.

Good access to central reprocessing services for efficient cleansing and sterilizing equipment will be essential to support safe and high quality patient care.

In the planning of facilities and space, planned introduction of technologies, such as improved guidance modalities for procedural precision and safety, should be taken into consideration. Audio-visual and recording facilities for procedural documentation and live-broadcasting would support teaching and patient management.

Clinical Supporting Services: Central Sterile Supply Service

Service Description

The Central Sterile Supply Unit (CSSU) will provide modernized disinfection and sterilization services in the new acute hospital. Through centralisation of disinfection services and sterilization of instruments, the service aims to support in-patient and out-patient services, including those provided by OTs, endoscopy unit, wards and other clinical areas in the hospital, such as in the ambulatory zone.

To support safe and high quality patient care, reusable surgical instruments will be tagged, processed, and tracked using modern equipment and systems.

Design Implications

Design of the CSSU should comply with the latest HA guidelines and planning standards. Clear segregation of clean and dirty zones, with unidirectional workflow should be incorporated.

To maximize service efficiency and effectiveness, the CSSU should be strategically located within the new acute hospital, to support good functional connectivity with the areas requiring CSSU support. To support this, well-planned transport logistics within hospital for the collection of soiled items and delivery of sterilized items will be an important consideration. Adequate storage space is also required for stock-up of raw materials for in-house production items.

Other Specialised Services

The new acute hospital will be a referral centre for services on trauma, clinical oncology, neurosurgery, interventional vascular procedures, cardiology and cardiothoracic surgery, musculo-skeletal tumour and joint replacement, spinal cord injury, renal transplantation and urogynaecology. Specialised services provided also

include HIV / acquired immune deficiency syndrome (AIDS), PET scanning, hyperbaric oxygen therapy (HBOT), custodial ward and specialist out-patient clinic for CSEP. In many cases, these services are provided on a multi-disciplinary and cross-specialty basis, involving many of the departments described above and with similar design implications described.

To meet the increasing demand and further develop the PET service in HA, an additional PET scanner and a Cyclotron with Radio-pharmacy are required. Non-fluorodeoxyglucose (FDG) PET imaging can facilitate the clinical management of many diseases especially in the specialties of oncology, neurology and cardiology. In addition, the nuclear medicine and PET centre in the new acute hospital can also provide support to the neuroscience service and the adjacent HKCH.

Advanced Technology and Services under Deliberation

The new acute hospital will embrace advanced technology, as the major acute hospital in the Cluster and as a tertiary and quaternary referral centre. However, technology adoption should be evidence-based and shared in a rational way. This includes technologies for clinical services as well as those for supporting services such as IT, asset tagging and back-of house automation. Exploration and deliberation will be required on the evidence for the introduction of a number of technologies as well as on the alignment of location if introduced.

Education and In-service Training

Currently, QEH is the location of a multi-disciplinary simulation and skills centre and School of General Nursing. It is anticipated that the simulation centre and nursing school will continue to be provided in KCC. However, with the development of the new acute hospital in the KTDA supporting the relocation of QEH, further deliberation and consideration will be required on the future location of these two education and training facilities in KCC.

Multi-disciplinary Simulation and Skills Centre

The simulation training centre currently in QEH operates as an independent department to serve multi-disciplinary training needs of HA staff. It is HA's direction to develop simulation-based training as one of the key components of modernization in staff training. A comprehensive simulation centre in KCC will provide full-motion simulation training that focuses on fully-immersive, scenario-based, team-approach simulation training. Mobile and satellite facilities for in-situ simulation and clinical skills training will also be provided. Furthermore, it will be an HA-designated centre for corporate training programs in the area of "Advanced emergency care, Traumatology and Vascular training".

School of General Nursing

Established in 1960, the School of General Nursing trained professional nurses for various health care settings. Since 1996, the School of General Nursing has been collaborating with local universities in conducting the Higher Diploma in Nursing Programme.

The mission of the School is to provide quality nursing education for nurse learners to become competent professional nurses to meet the changing health needs of the community. The School philosophy is built on

the values that education is a continuous process, whereby nurse learners should be active participants in acquiring knowledge and skills to fulfil their professional roles as care-givers, health educators, client advocates, coordinators, researchers, and change agents. The programmes have been designed to achieve these through a variety of mediums, including lectures, group work, clinical exposure, as well as nurse laboratory for demonstration, practice, skills development and assessment.

Implementation Enablers

The models of care, clinical service directions, and description of the new acute hospital in the KTDA reflect the complex system of inter-related services and functions required to take place within and across hospitals. Successful implementation requires a number of enablers to be developed incrementally, which are described below. These include physical design, workforce planning, how clinical programmes will be organised and managed, information and communications technology (ICT), as well as financial resources. The HA annual planning process will be the mechanism through which additional resources will be sought.

Physical Design

The design of the new acute hospital in the KTDA should be informed by the requirements of the models of care, clinical service directions and care delivery methods, and importantly the needs of users.

The experience of patients and their families, as well as the way services are delivered by staff are heavily influenced by the physical facilities.

The provision of a friendly, supportive and culturally appropriate environment for patients, their families and carers is a priority which should be pursued. Studies have demonstrated that environments which incorporate cultural symbols, artwork, greenery and external vistas contribute to patient healing and recovery. In addition, barrier-free access is an important consideration for HA, particularly in the design of new or redeveloped healthcare facilities.

The physical setting of the new acute hospital and the functional relationships of clinical departments and teams will need to support efficient and coordinated multi-disciplinary models of care. Integration of flexible and shared space will support the collaboration between multi-disciplinary teams within the hospital. Such considerations in physical design include:

- Large rooms for multi-disciplinary consultation.
- Co-location of consultative and diagnostic services.
- Appropriate waiting areas.
- Flexibility in configuration of ambulatory space.

In the future, appropriate and sufficient spaces should be provided for family and carers to participate and assist in patient care, to wait for health professionals or patient results, hold private discussions with health professionals, as well as grieve when necessary. The physical design of facilities will therefore be an essential component in supporting patient privacy and dignity, being age- and gender- appropriate.

Furthermore, design should provide a high level of spatial orientation for patients, achieved by direct visualisation. This will usually require the use of a central atrium and multiple interconnected floors that allow vertical travel by escalators. Patient amenity and access to health-related education and resources should be maximised.

Moving towards more multi-disciplinary and patient-centred models of care, facilities will need to support the coordinated delivery of multiple services which enable patients to receive a series of consultations in a single visit, rather than over the span of several days or weeks. This is of particular importance in ambulatory areas, where there are large patient volumes.

Intelligent design and use of advanced information technology have the potential to transform the patient experience, from one in which long waiting is the norm, to that where patients are electronically alerted to their clinic appointments, and waiting areas are used productively as pleasant focal points for education and health promotion activities.

Workforce Planning

It is beyond the scope of this CSP to examine quantitative issues in relation to workforce numbers. However, it is important to reinforce the magnitude of the proposed changes to workforce and to emphasise that changes should start now, rather than to wait until the completion of new hospital facilities. Key aspects to consider include the following points.

First, the identification of new skills, new roles and even new staff has a long lead time. Regardless of what management arrangements are in place to progress recommendations from this CSP, it is crucial that change management and skills development be included.

Second, workforce is the most important asset in hospitals. Sufficient amenities to support staff health and welfare are important components to consider in the design of new facilities and clinical spaces. Importantly, quiet areas should be provided for time-out and contemplation. Facilities for recreation, exercise and contemplation are not only beneficial for enhancing staff performance, but also can enhance staff recruitment and retention.

Third, the concept of care coordination is becoming an important component in patient management, especially for those with chronic disease or disabilities. Care coordination in essence means that patients along the care pathway from diagnosis to recovery (or palliation) will be looked after by a coordinator. In keeping with these trends, care coordination is included in the models of care of several services (e.g. Elderly Services). Such coordinators will be trained in disease and care management, patient information management, discharge planning and skillful in facilitating team work with different disciplines, specialties and across hospitals, to enhance effective and efficient patient care. The aim is to achieve the best possible care at the right time, provided by the right person / team.

Already some existing clinical programmes have case managers and / or cluster coordinators in place. However, some will need to develop them afresh. It is therefore important to recognise these posts as key for smooth management of clinical programmes and patient transition across different care settings in KCC.

Furthermore, to facilitate these it is important to recognise the necessary skills and training for these roles, the arrangement as additional posts for existing staff, the need of hiring new staff, and the possibility of branding it as a new healthcare profession.

Organisation and Management of Clinical Programmes

Integrated and collaborative clinical programmes will be similar to those outlined in the chapter on Clinical Service Programmes. The work groups formed to generate proposals on respective clinical programmes should be retained to provide clinical alignments on their development and roll-out.

The models of care proposed are cluster-based and in some cases cross-cluster and the requirement for a cluster-wide coordinator or manager is implicit in most of the models of care. Establishment of programme managers / coordinators and the roles of site managers in each hospital and Chiefs of Service will require further consideration and deliberation. It is recommended that the Cluster Chief Executive designate a person to monitor the implementation of recommendations in KCC CSP.

In proposing their clinical programmes, a number of common components emerged from the deliberations of the CWGs, which support the success of their programmes. For example, early access to rehabilitation, ambulatory care, and enhancement of multi-disciplinary chronic disease management services to support patient maintenance in the community. Where cross-cutting programme components are identified, consideration into their earlier development is suggested to provide a synergistic effect across multiple patient pathways.

In addition, continued engagement and discussion with staff on the development and implementation of services will be crucial. As the clinical strategies in this CSP are realised, their success will very much depend on the open communication and trust that is established and built amongst the healthcare professionals and across the different teams within the cluster.

Defining the Future Ambulance Catchment Zones in the Kowloon Region

The planning of a new acute hospital in the Kowloon region will have a profound effect on the service provision in the vicinity. In particular, the relocation of services from QEH to the new acute hospital in the KTDA, including the A&E department and trauma services, will need to take into consideration the impact on the changes to A&E department attendances, either through self-presentation or by ambulance. On the other hand, for other hospitals in the vicinity at the time of the formulation of this CSP, such as KWH and UCH, the impact of the new acute hospital in the KTDA and relocation of services from QEH will also need to be understood in terms of the effect on their service demand. Within the region the ambulance catchment zone has a profound impact on hospital service demand. For example, at QEH a significant percentage of A&E department first attendances each day are brought in by ambulance and include a significant number of patients from the Wong Tai Sin district. With regard to the planning for a new acute hospital in the KTDA there is a requirement for early discussion and negotiation with the Fire Services Department regarding ambulance catchment zones and routing in the Kowloon region, to ensure well-coordinated planning of services which meet the needs of the local population.

Information and Communications Technology and Financial Resources

ICT and financial resources fall outside the scope of the CSP. However, they are mentioned as they are key enablers in realising new models of care, service directions and facility design. There are demands for ICT to streamline the evolution and introduction of new technologies in the public sector. This includes ICT development to support electronic patient information and records management, multi-disciplinary clinical management, as well as back-of-house support and logistic functions. In order to take these recommendations forward, an Information Technology work group is recommended to be formed under the future Project Steering Committee overseeing the capital project for the development of the new acute hospital and the execution of the CSP.

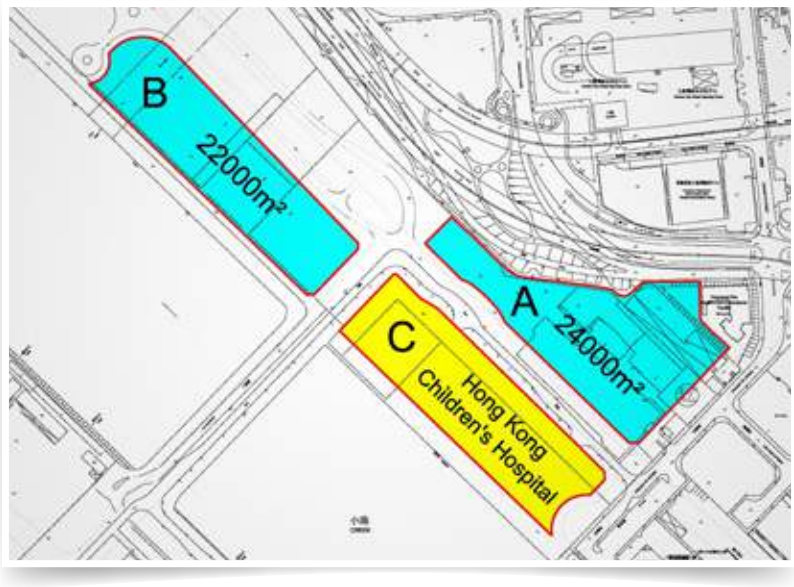
CONCEPT DESIGN

The purpose of this Concept Design is to show that the functional relationships of the clinical services developed in the CSP can 'work' effectively in the near and long term on the proposed KTDA site.

About the Kai Tak Site

The proposed combined site for the new acute general hospital at Kai Tak is on the old airport south apron and comprises of two site areas, Site A, 24,000m^2 fronting the new HKCH and Site B with an area of around 22,000m^2 located on the waterfront facing Victoria Harbour (Figure 6).

Figure 6. The hospital sites at Kai Tak (Sites A, B, C)



The sites themselves are flat, with good ventilation and open views. There are extensive opportunities for greening and landscaped areas for the use of both patients and staff. Enjoyment of the waterfront and engagement with the water can further enhance the patient environment. The sites can accommodate floor areas of between 8,000m^2 and 12,000m^2 on a single floor, which is vital for the co-location of clinical departments, for future flexibility and for the integration of new technology.

About the New Acute General Hospital at Kai Tak

The new acute hospital will:

- Deliver a comprehensive range of specialty and sub-specialty services.
- Provide an internationally benchmarked A&E department with designated trauma service.
- Incorporate high technology services including neurosciences.
- Provide services to support the Hong Kong Children's Hospital.
- Encompass modern ambulatory and rehabilitation services.

By the planned opening of the facility, capacity planning suggests that there will be a requirement for more than 2,000 beds.

Key considerations for the hospital design of the new hospital include the points outlined below.

Functional Relationships

The new hospital should provide the optimum functional relationships for all critical clinical activities, particularly the hot floors and A&E department, the OTs, ambulatory care, neuroscience, cardiac and cancer services.

Planning for the hospital at Kai Tak should aim to create a hospital environment that is patient-centred and is easy and convenient to use. To achieve an efficient and patient-friendly design, the need is for the functional arrangement of clinical activities based on the patient journey. Integration of flexible and shared spaces will support collaboration among different multi-disciplinary teams within the hospital and also the delivery of high quality care. In addition, for longer-term planning the infrastructure needs to be adaptable enough to enable flexible harnessing of new technologies, innovative treatments and modes of service delivery.

Finally, given its adjacency to the HKCH, intelligent spatial arrangement and connectivity will be vital.

Large Floor Plates

Maximising large floor areas ("floor plates") is one of the most important considerations for the design of any new acute hospital. Large floor areas are called for by the CSP and are essential to the co-location of clinical departments, for flexibility and for the integration of new technologies.

Zonal Arrangements of Services

In the new acute hospital, facilities will be strategically located and coupled with an intelligently designed transport system to allow efficient patient and staff movement and workflow.

The "hot floor" zone will include the A&E department, ICU, OTs and emergency diagnostic facilities. Location of functions and inter-department connections to enable smooth and swift workflow will be crucial. For instance, if a major accident of multiple casualties occurs, the A&E department must have enough space to handle the cases with unimpeded access to emergency diagnostics and fast track routes to OTs via designated lifts. After an operation, patients can be rapidly transported to the ICU, which must be functionally connected to the OTs.

Future pathology services should also be arranged in a zonal manner, where activities are concentrated on connected floors and smartly linked to satellite units, where necessary.

For cancer services, design will be influenced by factors such as shielding and bunker requirements, to ensure that equipment meets relevant safety and regulatory standards. In addition, patient areas must be non-institutional and relaxing in ambience to reduce stress.

Site Access

Enhanced vehicular access, particularly for ambulance routes to A&E department, will be critical for any major trauma centre. It is proposed that there would be new access from the Kwun Tong by-pass via a ramp for ambulances to access the hospital.

Circulation and Vertical Movement

In order to function effectively, well connected horizontal and vertical circulation will be essential, providing a three-dimensional network of access that is easy to understand and to navigate. The concept of intuitive "way-finding" for orientation and movement is an important component to incorporate into design. The use of space, and in particular the open space of an atrium, can support user-friendly navigation for patients, families and carers, staff and other visitors.

In hospitals of the magnitude of the new acute hospital, the spatial arrangement and capacity of the internal movement system, particularly lifts, will be vital to efficient workflow.

Storage and Logistics

All clinical services need to be strategically supported by "back-of-house" services. In many existing hospitals circulation spaces, corridors and lobbies have become used for parking and storage of furniture, trolleys and equipment because of inefficient logistics and storage. The new hospital planning would ensure that these important services are efficiently and effectively planned.

Dynamic and Flexible Use of Space

Except for necessarily fixed major equipment and protection in specific areas such as the bunkers, space will need to be fully flexible. An implicit agreement in the CSP is the principle of sharing physical resources among different clinical programmes. This means a notional allocation to clinical programme areas, but with maximum flexibility and generic use wherever possible. Spaces considered as adaptable modules, where they can be readily converted for different uses if required, can cater for additional service requirements in the future. Future functional areas, such as consultation rooms, seminar rooms or ambulatory activity areas will be equipped with plug-in capability for rapid transformation into other service use. The new facility should be designed to permit growth – increase in size – and be designed for flexibility and redundancy to cope with changes in clinical practice and technology.

Sustainability

Hospitals are large public buildings that have a significant impact on their environment. They are heavy users of energy, resources and will produce large amounts of waste. This heavy demand on community resources makes hospitals natural and necessary candidates for sustainable design.

CONCEPT

The proposed hospital will be designed as a holistic medical complex with a clear linked hospital street circulation system, including covered air-conditioned bridges. This medical complex will include a central entrance hub, ambulatory facilities, hot floors, other clinical services, surgical, medical, maternity wards and other inpatient wards.

The “hub” of the hospital will have arrival and departure facilities, admissions, centralised waiting, dining, cafes, and staff amenities in an atrium like space with dynamic interconnected levels. Above this space would be the ambulatory care zone and specialist out-patient clinics.

This central hub will be the public heart of the hospital with the Main Entrance Lobby on the ground floor and pick up / drop off for taxis and mini-buses. Escalators, stairs and lifts move people to the entrance atrium above. The space will be patient-centred and bright with natural day lighting.

The hub will connect with the A&E department and major hot floors, including OTs, critical care and other clinical services. The large floor plate area available can accommodate special beds co-located with clinical services, such as the neuroscience and cardiac programmes. In addition, medical, surgical and maternity beds can be located above. The wards may house around 200 beds per floor in a pod arrangement, enhancing patient-centred care and the future flexibility of the physical ward environment. This will enhance infection control measures by providing the opportunity to isolate areas flexibly. In addition, the building will accommodate well integrated diagnostics services, meeting modern international standards, and include advanced diagnostic imaging facilities and pathology.

On the waterfront site, linked by a major access bridge, the building may accommodate a range of clinical services including those for medicine and oncology, with the appropriate advanced technology, such as bunkers located in the basement. Ward areas above the clinical services will greatly benefit from the open waterfront views.

Horizontal connections will be provided to the HKCH on key floors.

The entry atrium has arrival and departure on the ground floor and links via escalators to admission, waiting, dispensary and café and dining. Many patient facilities will have engaging views of the water, while the southwest corner with wards and hot floors will have a splendid southerly prospect of Victoria Harbour.

The large floor plates provide considerable future flexibility and technology capability. In addition, site capacity remains to further expand the hospital to meet expected and unexpected future service demands.

In terms of logistics, it is proposed that Sites A, B and C (the HKCH) will have connecting basements to enhance the delivery of support services and connected to the lift cores in both hospitals.

Capacity Planning

A key factor underpinning the formulation of KCC CSP is the projected demand for clinical services, which forms the basis for capacity planning.

METHODOLOGY

Using demand modelling techniques, a demand projection exercise was carried out to determine the future capacity required of KCC in terms of hospital acute and extended care beds for the next two decades up to 2031, with 2010 as the base year. The projection took into account population growth, demographic changes and age-gender-specialty-specific service utilisation trends.

The demand projection exercise was conducted in close collaboration with clinicians from different clinical specialty committees, cluster management teams, and the Census & Statistics Department (C&SD) of the Government.

DATA SOURCES

Projections were based on data from four main data sources:

- Service utilisation data from 2004 to 2010 from the HA data warehouse, which included 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, 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) quantified in consultation with the C&SD.

PLANNING PARAMETERS

All parameters for the projections were age-gender-specialty-specific. They comprised 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 17 specialty groups (ICU/HDU, medicine, surgery, cardiothoracic surgery, neurosurgery, orthopaedics, gynaecology, obstetrics, neonatology, paediatrics, ophthalmology, ENT, oncology, hospice, dental, emergency medicine and other / unclassified specialty).
- Age-specific rates per female population for obstetrics and gynaecology specialties.
- For neonatology, including NICU and SCBU, planning parameters were devised from birth data.
- For extended care, including convalescence / rehabilitation care and local infirmary service, the ratio of acute to extended care bed days occupied per linked episode was considered.

PROJECTION METHODOLOGY

For the projection of bed requirement for each clinical specialty, other than obstetrics and neonatology, the volume and mix of expected service demand from residents in each district were 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.

Using the base-year data on specialty-specific cross-district patient flow for acute bed days, the empirical hospital patronage pattern across districts was computed. It has been anticipated that after the service commencement of the new acute hospital in the KTDA, there would be changes in hospital patronage pattern among population residing in the nearby districts. As such, the empirical hospital patronage pattern was

fine-tuned with reference to the shortest travelling distance based on latest planned road works from the Civil Engineering and Development Department of the Government, The demand for new KCC acute bed days was then derived by applying this hospital patronage pattern specifically for hospitals to be managed by new KCC.

Significant growth in the number of cross-border EPs was observed in the past years. It was estimated that the utilisation by cross-border EPs in 2010 was around 5% and 1% of HA's total patient days for paediatrics specialty and in-patient hospital services, respectively. The demand from cross-border EPs was also incorporated into the projection.

For obstetrics services, the bed demand was derived from projected births in Hong Kong, including births to local and Mainland mothers. Territory-wide projected local birth figures were 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 base-year public-hospital-share and hospital patronage patterns, with the adjustment regarding to the service commencement of the new acute hospital in the KTDA, among the eight HA obstetric units was then applied to derive the projected obstetric bed requirement for new KCC.

For neonatology, the projected births at hospitals under the management of new KCC formed the basis for estimating the demand for SCBU and NICU services, with the use of respective utilisation rate. Referrals of infants born in other HA hospitals were also considered. On the other hand, the demand for SCBU and NICU from outborns (i.e., infants born in non-HA hospitals) was based on the respective utilisation rate, the total projected births at private hospitals, as well as the relative distribution of outborn admissions among hospitals under the management of new KCC and the other SCBU / NICU in HA.

Finally, the projected extended care bed requirement for new KCC was computed based on the projected acute bed days for new KCC and the HA-wide age-gender-specialty ratio of acute to extended care bed days occupied per linked episode.

CASEMIX ADJUSTMENT

There are different service networking systems in HA for different specialties. For each specialty, there is a variation in casemix profile among clusters. Therefore, casemix data from 2009 to 2011 were used to identify the variation in complexity of acute in-patient services across clusters.

It is observed that the LOS increases with the case complexity. Hence for every hospital and age-gender-specialty subgroup, an anticipated LOS was 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 different specialties of HA hospitals were subsequently factored into the projection.

ASSUMPTIONS FOR BED PROJECTION

The projection covered both in-patient and day-patient bed days. In consultation with the Cluster management teams, the projected bed days for acute care beds were translated into the number of in-patient acute beds required for each specialty, by assuming an 80%-90% occupancy rate dependent on the proportion of emergency caseload. For instance, for specialties of ICU/HDU, NICU and obstetrics, a lower occupancy rate of 80% was assumed since these departments generally admitted patients on an urgent but random basis so more flexibility should be allowed. As for day beds under acute care and in-patient beds for extended care services, a 120% and a 90% occupancy rate were assumed respectively.

PROJECTED BED REQUIREMENT

The projected acute and extended care bed requirements for new KCC by 2031 are summarised in Table 2 below:

Table 2. Projected acute and extended care bed requirement for the new KCC in 2031

Care Category	Projected Bed Requirement in 2031[1]
Acute Care[2]	4,600
Extended Care[3]	1,800
Total[4]	**6,400**

Notes:

1. Changes in patient patronage pattern due to the service commencement of the under planning Hong Kong Children Hospital has not been considered in the projected bed requirement
2. For nursery specialty under Acute Care, the bed number as at year 2010 has been adopted throughout the projection horizon.
3. Includes beds for convalescence / rehabilitation and infirmary care but excludes beds for Central Infirmary Waiting List placement.
4. Sum of individual figures may not equal the total due to rounding.

Conclusion

CONCLUDING REMARKS

KCC CSP sets out the key strategies and models of care for the future development of services in the Cluster. The strategies, proposed and deliberated by staff of KCC, inform the service profiles of the hospitals in the Cluster and in particular the planning for a new acute hospital in the KTDA. Characterised by high technology, sophistication and diversity, and incorporating contemporary models of care, the new acute hospital will play a major role in orchestrating the coordination of care across the Cluster.

The CSP seeks to strengthen the coordination of patient care, both within and between hospitals in the vicinity, through enhancing integration of cross-specialty and multi-disciplinary care. Collaboration is another key theme within the CSP, particularly in delivering seamless care from patients' perspective.

A concept design for the new acute hospital in the KTDA has been developed and informed by the models of care, proposed service directions and service profile description of the hospital. The concept design takes advantage of the rare opportunity of planning for a new hospital, on a large flat site in Hong Kong. This includes consideration of large floor areas to optimise the spatial arrangement of services and facilities, such as the A&E department, ICU, OTs, as well as accommodating the different services of clinical programmes. Zonal approaches to planning are incorporated into the hospital design, such as the hot floors and ambulatory zones, to support specific hospital functions, staff and patient needs. Intelligent design, good connectivity and synergy of services are hallmarks of the new acute hospital in the KTDA.

The concept design also supports the flexible and dynamic use of space and together with capacity of the hospital site for further expansion, allowing for future service developments and advancements in medicine as well as responsiveness to changing service demands.

At the same time, development of a new acute hospital in the KTDA provides a unique opportunity for the services of QEH to relocate to the new acute hospital and paves the way for the redevelopment of the vacated site at King's Park according to the service needs of the whole Hong Kong. After devising the clinical services to be provided at this site, a Master Development Plan would be formulated taking reference to the detailed plan of service provision.

In addition, the revision of cluster boundary presents an opportune time for coupling the synergy in the Cluster's hospitals and institutions to better serve the healthcare needs of populations in the new KCC. Hospitals and institutions in the new KCC will collaborate with other Kowloon clusters to ensure comprehensive care and enhance service linkage for patients from various resident districts, and to better align service developments in these areas for more integrated and patient-centred care.

WAY FORWARD

Formulation of KCC CSP has been founded on the rich culture and professionalism, wisdom and expertise of staff from across KCC and neighbouring Clusters. Tremendous efforts have been made to consider the future models of care and clinical services directions to achieve the best possible patient care and outcomes. Moreover, the planning for a new acute hospital presents a unique opportunity for staff to rethink the way services are delivered and roles of the hospitals in the Cluster. Understandably, colleagues are both excited and anxious.

The planning for a new acute hospital and further alignment of hospital services in the Cluster will require determination and strong commitment from the management. A cluster-based committee involving the Cluster Chief Executive and members of KCC should be set up to oversee the implementation of the CSP. This includes the execution and monitoring of implementing the recommended strategies and service models in the CSP, and promulgation to staff and stakeholders. Moreover, with several major capital works in the pipeline, there is also a need to ensure that their capital planning are in line with and in support of the recommended models of care and service collaborations in KCC CSP.

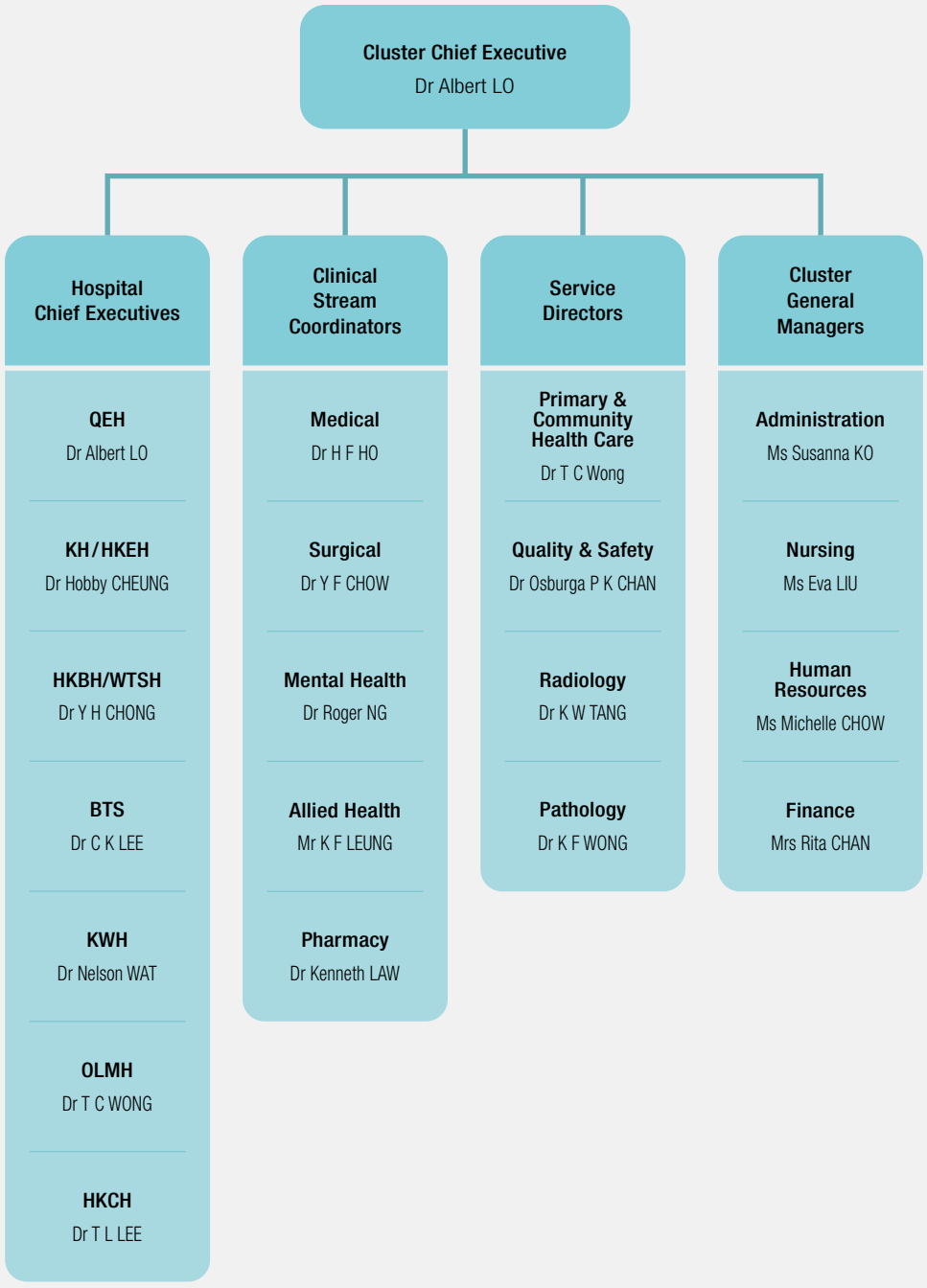
During the process it will be essential to have staff and other stakeholders engaged through ongoing communication and information exchange. This will be particularly important as additional information and planning will help to further inform the models of care and service directions for KCC. Consideration also needs to be given to the key enablers that need to begin to be planned for, or put in place, to support the new models of care and service directions. These include workforce, information and communications technology, as well as discussions and negotiations with relevant Government departments and stakeholders that are critical to the success of the planned service developments. Should additional resources be required for implementing the CSP, they can be sought through the HA annual planning process.

Enabling change will require a built up of momentum and enthusiasm via continuous communication and information exchange. Changes can and should begin now to support the planning and development of new service models in KCC.

Abbreviations

A&E	Accident and Emergency
BTS	Hong Kong Red Cross Blood Transfusion Service
CCU	Coronary Care Unit
CGAT	Community Geriatric Assessment Team
CSP	Clinical Services Plan
CT	Computed Tomography
CWG	Clinical Work Group
DOSA	Day of Surgery Admission
ECMO	Extracorporeal Membrane Oxygenation
EMW	Emergency Medicine Ward
ENT	Ear-Nose-Throat
EOL	End-of-life
GOPC	General Out-patient Clinic
HA	Hospital Authority
HAHO	Hospital Authority Head Office
HDU	High Dependency Unit
HGC	Hospital Governing Committee
HKBH	Hong Kong Buddhist Hospital
HKCH	Hong Kong Children's Hospital
HKEH	Hong Kong Eye Hospital
ICU	Intensive Care Unit
KCC	Kowloon Central Cluster
KH	Kowloon Hospital
KTDA	Kai Tak Development Area
KWH	Kwong Wah Hospital
LOS	Length of Stay
MAPU	Medical Assessment and Planning Unit
MFM	Maternal Fetal Medicine
MRI	Magnetic Resonance Imaging
NICU	Neonatal Intensive Care Unit
O&G	Obstetrics and Gynaecology
OT	Operating Theatre
PACU	Post-anaesthetic Care Unit
PCI	Percutaneous Coronary Intervention
PET	Positron Emission Tomography
QEH	Queen Elizabeth Hospital
SCBU	Special Care Baby Unit
SOPC	Specialist Out-patient Clinic
STEMI	ST-elevation Myocardial Infarction
OLMH	Our Lady of Maryknoll Hospital
WTSH	Tung Wah Group of Hospitals Wong Tai Sin Hospital

Appendix 1:
Current Organisational Structure



As at December 2016

Appendix 2: Summary of Current Services

QUEEN ELIZABETH HOSPITAL

Clinical Services

- Accident & Emergency
- Anaesthesiology & Operating Theatre Services
- Cardiothoracic Surgery
- Clinical Oncology
- Ear, Nose & Throat
- Family Medicine
- Infection Control Unit
- Intensive Care Unit
- Medicine
- Neurosurgery
- Obstetrics & Gynaecology
- Ophthalmology
- Oral-Maxillofacial Surgery & Dentistry
- Orthopaedics & Traumatology
- Paediatrics
- Pathology
- Radiology & Imaging
- Surgery

Referral Centre

- Designated Trauma Centre
- Clinical Oncology
- Neurosurgery
- Interventional Vascular Procedure
- Cardiology & Cardiothoracic Surgery
- Musculo-skeletal Tumour & Joint Replacement
- Spinal Cord Rehabilitation
- Renal Transplant
- Urogynaecology

Specialised Services

- Paediatric Surgery
- HIV Services
- Positron Emission Tomography (PET)
- Custodial Ward Services
- Block L Specialist & Staff Clinic (including for CSEPs)

Allied Health Services

- Audiology
- Clinical Psychology
- Dietetics
- Occupational Therapy
- Pharmacy
- Physiotherapy
- Podiatry
- Prosthetics & Orthotics
- Speech Therapy
- Medical Social Work

Clinical Supporting Services / Others

- Combined Endoscopy Unit
- Electrographic Diagnostic Unit
- Multi-disciplinary Simulation & Skills Centre

KOWLOON HOSPITAL

Clinical Services

- Respiratory Medicine
- Psychiatry
- Rehabilitation

Allied Health Services

- Clinical Psychology
- Dietetic Service
- Occupational Therapy
- Pharmacy
- Physiotherapy
- Podiatry
- Prosthetic & Orthotic
- Speech Therapy
- Medical Social Work

Clinical Supporting Services / Others

- Extended Care
- Infirmary
- Kowloon Psychiatric Observation Unit
- Psychiatric Wards
- Psychiatric Consultation Liaison Service
- Psychiatric Rehabilitation Service
- Psychiatric Day Hospital
- Psychogeriatric Day Hospital
- Respiratory Medical Day Care Centre
- Sleep Laboratory
- Diagnostic Radiology
- Specialist Out-patient Clinics
- Substance Abuse Clinic
- Community Geriatric Assessment
- Community Nursing
- Community Psychiatric Nursing
- Community Psychiatric Team
- Community Psychogeriatric Team
- Spinal Cord Rehabilitation Centre

HONG KONG BUDDHIST HOSPITAL

Clinical Services

- Medicine
- Joint Replacement Centre
- Ear, Nose and Throat
- Gynaecology
- Convalescence
- Hospice / Palliative Care
- Day Rehabilitation Centre
- General Out-patient Clinic

Allied Health Services

- Dietetics
- Pharmacy
- Physiotherapy
- Occupational Therapy
- Medical Social Work
- Speech Therapy

Clinical Supporting Services / Others

- Diagnostic Radiology
- Medical Laboratory
- Community Nursing
- Volunteer Service
- Health Education

HONG KONG EYE HOSPITAL

Clinical Services

- General Ophthalmology (including a Triage Unit and Surgical Service)

Specialised Services

- Contact Lens Specialty Clinic
- Services for Glaucoma, Cornea & External Eye, Surgical Vitreo-Retina, Medical Retina, Paediatric & Strabismus, & Orbit & Oculoplastic cases
- Neuro-Ophthalmology
- Orthoptic Assessment
- Vision Rehabilitation

Allied Health Services

- Optometry
- Orthoptics
- Pharmacy
- Medical Social Work

Clinical Supporting Services / Others

- HA Eye Bank Office
- Department of Ophthalmology & Visual Sciences, the Chinese University of Hong Kong

HONG KONG RED CROSS BLOOD TRANSFUSION SERVICE

Clinical Services

- Haematology
- Transfusion Medicine
- Pathology

Clinical Supporting Services / Others

- Donor Recruitment, Donor Service & Counselling, & Blood Collection
- Blood Supply Chain (From processing of collected whole blood into components & products, through storage & inventory management to distribution to hospitals)
- Blood Donation Testing & Screening
- Hong Kong Bone Marrow Donor Registry
- Hong Kong Red Cross Catherine Chow Cord Blood Bank (Territory-wide consultation & tertiary referral service of red cell & platelet immuno-haematology investigation, supply of reagent cells, training of blood bank worker & haematology specialists)
- Transfusion Serology (Proficiency testing scheme & practice for local & overseas blood banks)
- Toll Plasma Fractionation (Management of programme & distribution of plasma products to hospitals)

KWONG WAH HOSPITAL

Clinical Services

- Accident & Emergency
- Anaesthesia & Operating Theatre Services
- Diagnostic & Interventional Radiology
- Ear, Nose and Throat
- Inpatient Dentistry
- Inpatient Ophthalmology
- Intensive Care Unit
- Liaison Psychiatry
- Medicine & Geriatrics
- Neurosurgery
- Obstetrics & Gynaecology
- Orthopaedics & Traumatology
- Paediatrics
- Pathology
- Surgery

Ambulatory & Allied Health Services

- Clinical Psychology
- Dietetics
- General Out-patient Service
- Medical Social Service
- Occupational Therapy
- Pharmacy
- Physiotherapy
- Podiatry
- Prosthetics & Orthotics
- Specialist Out-patient Service
- Speech Therapy

Community Services

- Chinese Medicine Clinics (provided by TWGHs)
- Community Allied Health Services
- Community Geriatric Assessment Team
- Community Nursing Service
- Diabetes & Endocrine Centre
- Health Promotion Centre
- Out-reaching Home Care Services for the Elderly (provided by TWGHs)
- TWGHs Intergrated Diagnostic & Medical Centre (provided by TWGHs)
- Well Women Clinic (provided by the TWGHs)

Clinical Supporting Services / Others

- Breast Centre
- Central Sterile Supplies Department
- Day Surgery
- Electro-Medical Diagnostic Unit
- Electrodiagnostic Unit
- Endoscopy Unit
- Geriatric Day Hospital
- Neurosurgical High Dependency Unit
- Prenatal Diagnostic Centre
- Renal Dialysis Service
- Urology Centre
- Vascular Centre
- TWGHs Computed Tomography Imaging Centre (provided by TWGHs)

OUR LADY OF MARYKNOLL HOSPITAL

Clinical Services

- Anaesthesia & Operating Theatres Services
- Cardiology
- Chest
- Ear, Nose and Throat
- Endocrinology & Diabetes Mellitus
- Family Medicine
- Gastroenterology & Hepatology
- Geriatrics
- Gynaecology
- Medicine
- Orthopaedics
- Paediatrics
- Palliative Care
- Surgery
- Urology

Clinical Supporting Services / Others

- Ambulatory Services
- Cardiac Centre
- Centre for Diabetes Education & Management
- Community Health Centre
- Community Nursing
- Dietetics
- Electrodiagnostic
- Endoscopy Unit
- Medical Social Work
- Occupational Therapy
- Outreach Service
- Pastoral Ministry
- Pharmacy
- Physiotherapy
- Podiatry
- Radiodiagnosis

TUNG WAH GROUP OF HOSPITALS WONG TAI SIN HOSPITAL

Clinical Services

- Convalescent Care for Medical, Geriatric, Surgical, Orthopaedic & Neurosurgical Patients
- Geriatric Day Hospital
- Hospice & Palliative Medicine
- Infirmary Care
- Rehabilitation for Pulmonary, Stroke, Geriatric & Musculo-Skeletal Patients
- Tuberculosis & Chest

Clinical Supporting Services / Others

- Clinical Psychology
- Physiotherapy
- Occupational Therapy
- Medical Social Service
- Speech Therapy
- Podiatry
- Dietetics
- Pharmacy
- Prosthetics & Orthotics

Appendix 3: Structure and Governance

PROJECT COMMITTEE FOR PHASE ONE (JULY 2013 TO MAY 2014)

Terms of Reference

- To plan, guide, steer and formulate development of the KCC CSP
- To analyse, scrutinise and advise on the principles, assumptions, models of care, capacity planning and key recommendations proposed in the development of the CSP
- To receive the report generated by the external consultants and produce a final CSP for consideration by the members of the Directors' Meeting

Membership

Co-chairs

Dr C T HUNG	Cluster Chief Executive, KCC / Hospital Chief Executive, QEH & RC (up to December 2013)
Dr Albert LO	Cluster Chief Executive, KCC / Hospital Chief Executive, QEH & RC (from January 2014)
Dr S V LO	Director (Strategy & Planning), HAHO (up to December 2013)
Dr Libby LEE	Deputising Director (Strategy & Planning), HAHO (from January 2014 to June 2014)

Members

Mr John LEE	Chairman, QEH Hospital Governing Committee (up to March 2016)
Dr Hobby CHEUNG	Hospital Chief Executive, KH & HKEH (up to December 2016)
Dr Tsan CHEUK	Hospital Chief Executive, HKBH (up to October 2015)
Dr Susan CHAN	Service Director (Radiology), KCC / Deputy Hospital Chief Executive (Corporate Affairs) & Consultant (Diagnostic Radiology), QEH (up to August 2014)
Dr Patrick LI	Chief of Service (Medicine), QEH (up to November 2013) / Honorary Consultant (Medicine), QEH (from December 2013)
Dr H F HO	Clinical Stream Coordinator (Medical), KCC / Deputy Hospital Chief Executive (Professional Services) & Consultant (Accident & Emergency), QEH
Dr Y F CHOW	Clinical Stream Coordinator (Surgical), KCC / Consultant (Anaesthesia & Operating Theatre Services), QEH
Dr Jenny LAM	Chief Manager (Strategy, Planning & Service Transformation), KCC (up to December 2013)
Ms Susanna KO	Cluster General Manager (Administrative Services), KCC / General Manager (Administrative Services), QEH
Ms Eva LIU	Cluster General Manager (Nursing), KCC / General Manager (Nursing), QEH

Dr Libby LEE	Chief Manager (Strategy, Service Planning & Knowledge Management), HAHO (up to December 2013)
Ms Looi Looi LOW	Deputising Chief Manager (Strategy, Service Planning & Knowledge Management), HAHO (from January 2014 to June 2014)
Mr Donald LI	Chief Manager (Capital Planning), HAHO
Ms Eva TSUI	Chief Manager (Statistics & Workforce Planning), HAHO
Dr Kenneth TSANG	Senior Manager (Strategy & Service Planning), HAHO (up to January 2015)

Secretary

Ms Doris SIU	Senior Manager (Strategy and Planning), KCC / Senior Manager (Clinical Administrative Services), QEH

PROJECT COMMITTEE FOR PHASE TWO (JUNE TO OCTOBER 2016)

Terms of Reference

- To refine the KCC CSP in the view of re-grouping of hospitals as suggested in the HA Review
- To produce a final CSP for consideration by the members of the Directors' Meeting

Membership

Co-chairs

Dr Albert LO	Cluster Chief Executive, KCC / Hospital Chief Executive, QEH
Dr S V LO	Director (Strategy & Planning), HAHO (up to October 2016)

Members

Dr Pok Man KAM	Chairman, QEH Hospital Governing Committee
Mr Chung Hing LO	Chairperson, KH & HKEH Hospital Governing Committee
Mr Ka Cheung LEE	Member, HKBH Hospital Governing Committee
Mrs Katherine MA	Chairman, KWH & WTSH Hospital Governing Committee
Mr Yau On SO	Member, KWH & WTSH Hospital Governing Committee
Mr Chung Fai MOK	Member, OLMH Hospital Governing Committee
Dr Hobby CHEUNG	Hospital Chief Executive, KH & HKEH (up to December 2016)
Dr Yee Hung CHONG	Hospital Chief Executive, HKBH & WTSH
Dr Nelson WAT	Hospital Chief Executive, KWH
Dr Tak Cheung WONG	Hospital Chief Executive, OLMH
Dr H F HO	Clinical Stream Coordinator (Medical), KCC / Deputy Hospital Chief Executive (Professional Services) & Consultant (Accident and Emergency), QEH
Dr Y F CHOW	Clinical Stream Coordinator (Surgical), KCC / Consultant (Anaesthesiology & Operating Theatre Services), QEH
Dr S K MAK	Deputy Chief of Service (Integrated Medical Services), KWH
Dr Miranda CHAN	Clinical Stream Coordinator (Surgical), KWC / Chief of Service (Surgery), KWH & OLMH

Dr Libby LEE	Chief Manager (Strategy, Service Planning & Knowledge Management), HAHO (up to October 2016)
Dr Leo WAT	Senior Manager (Strategy and Service Planning), HAHO

Secretary

Ms Doris SIU	Senior Manager (Strategy and Planning), KCC / Senior Manager (Clinical Administrative Services), QEH

KCC CSP ADVISORY PANEL (OCTOBER TO DECEMBER 2013)

Terms of Reference

- To review, comment and provide advice to the Project Committee in the development of the KCC CSP
- To review and provide expert comment and feedback to the Project Committee on the key observations, recommendations and concept design proposed by the external consultancy on the KCC CSP

Membership

Convenors

Dr S V LO	Director (Strategy & Planning), HAHO (up to October 2016)
Dr C T HUNG	Cluster Chief Executive, KCC / Hospital Chief Executive, QEH & RC (up to December 2013)

Members

Dr Donald LI	President, Hong Kong Academy of Medicine
Prof W L LAW	Associate Dean (Clinical Affairs), Li Ka Shing Faculty of Medicine, the University of Hong Kong
Dr Loretta YAM	Former Cluster Chief Executive, Hong Kong East Cluster
Ms Sylvia FUNG	Former Chief Manager (Nursing), HAHO
Dr Nancy TUNG	Cluster Chief Executive, KWC / Hospital Chief Executive, Princess Margaret Hospital & North Lantau Hospital
Dr Joseph LUI	Cluster Chief Executive, KEC / Hospital Chief Executive, UCH (up to June 2014)
Dr K P LEUNG	Patient Representative
Dr Libby LEE	Chief Manager (Strategy, Service Planning & Knowledge Management), HAHO (up to October 2016)

KCC CSP PLANNING TEAM

KCC

Dr H F HO	Clinical Stream Coordinator (Medical), KCC / Deputy Hospital Chief Executive (Professional Service) / Consultant (Accident & Emergency), QEH
Dr Jenny LAM	Chief Manager (Service Planning & Service Transformation), KCC (up to December 2013)
Ms Susanna KO	Cluster General Manager (Administrative Services), KCC / General Manager (Administrative Services), QEH
Ms Eva LIU	Cluster General Manager (Nursing), KCC / General Manager (Nursing), QEH
Mr Michael CHAN	Chief Manager (Engineering Services), KCC / Senior Hospital Manager (Engineering Services), QEH (up to October 2015)
Ms Doris SIU	Senior Manager (Strategy and Planning), KCC / Senior Manager (Clinical Administrative Services), QEH

HAHO

Dr Libby LEE	Chief Manager (Strategy, Service Planning & Knowledge Management), HAHO (up to October 2016)
Dr Kenneth TSANG	Senior Manager (Strategy & Service Planning), HAHO (up to January 2015)
Dr Leo WAT	Senior Manager (Strategy & Service Planning), HAHO (from December 2015)
Dr Douglas WEST	Manager (Strategy & Service Planning), HAHO (up to June 2014)
Ms June WONG	Manager (Strategy & Service Planning), HAHO (up to January 2014)
Ms Inez WU	Manager (Strategy & Service Planning), HAHO (from December 2015 to May 2016)
Ms Doris HO	Executive Officer (Strategy & Service Planning), HAHO (up to January 2014)
Ms Siobhon CHENG	Executive Officer (Strategy & Service Planning), HAHO (up to October 2014)
Ms Stefanie TANG	Manager (Strategy & Service Planning), HAHO (from December 2015)
Ms Ellen WU	Executive Assistant (Strategy & Service Planning), HAHO (from December 2015)

External Consultants to the Planning Team

Dr Peter BRENNAN	Director, MA International Pty Ltd, Australia
Prof Lawrence NIELD	Director & Principal Architect, Studio Nield, Australia
Ms Abbie GALVIN	Principal Architect, Bligh Voller Nield Donovan Hill, Australia
Mr Neil LOGAN	Principal Architect, Bligh Voller Nield Donovan Hill, Australia
Ms Andrea NIELD	Director & Principal Architect, Studio Nield, Australia

Appendix 4: Membership of Clinical Work Groups

NEUROSCIENCE SERVICE

Co-Chairs

Dr H M CHIU	Chief of Service (Neurosurgery), QEH
Dr Patrick LI	Chief of Service (Medicine), QEH (up to November 2013) / Honorary Consultant (Medicine), QEH (from December 2013)

Members

Dr T K AU YONG	Consultant (Nuclear Medicine), QEH
Dr Alex CHAN	Deputy Chief of Service (Pathology), QEH
Dr Iris CHAN	Clinical Psychologist (Medicine), QEH
Dr John H M CHAN	Consultant (Medicine), QEH (part-time) (up to January 2016)
Dr L T CHAN	Associate Consultant (Medicine), QEH
Dr F C CHEUNG	Consultant (Neurosurgery), QEH
Dr Y F CHEUNG	Consultant (Medicine), QEH
Ms Priscilla CHOI	Department Operation Manager (Neurosurgery), QEH
Dr K F FOK	Consultant (Neurosurgery), QEH
Dr K W FONG	Associate Consultant (Medicine), QEH
Dr W C FONG	Consultant (Medicine), QEH
Dr Pui Man Mandy FUNG	Chief of Service (Rehabilitation), KH (up to May 2014)
Dr L C HO	Senior Medical Officer (Pathology), QEH (up to April 2016) / Honorary Consultant (Pathology), QEH (from April 2016)
Dr L Y HO	Consultant (Surgery) & Director (Multi-disciplinary Simulation and Skills Centre), QEH (up to November 2016)
Dr Eugenie HUI	Associate Consultant (Medicine), QEH
Dr K F HUI	Associate Consultant (Medicine), Tseung Kwan O Hospital
Ms Irene KWOK	Cluster Manager (Speech Therapy), KCC / Senior Speech Therapist, QEH
Ms Vivian KWOK	Advanced Practice Nurse (Medicine), QEH
Dr Polly LAU	Cluster Manager (Physiotherapy), KCC / Department Manager (Physiotherapy), QEH

Mr K F LEUNG	Clinical Service Coordinator (Allied Health) & Cluster Manager (Occupational Therapy), KCC / Department Manager (Occupational Therapy), QEH
Dr K M LEUNG	Deputy Chief of Service (Neurosurgery), KWH
Dr K K LI	Consultant (Orthopaedics & Traumatology), QEH
Ms W C LI	Department Operation Manager (Cardiothoracic Surgery / Ear Nose & Throat / Neurosurgery), QEH (up to January 2015)
Ms Eva LIU	Cluster General Manager (Nursing), KCC / General Manager (Nursing), QEH
Dr Colin LUI	Associate Consultant (Medicine), Tseung Kwan O Hospital
Ms Eva W L MA	Senior Occupational Therapist, QEH
Ms K L MAN	Nurse Consultant (Neurosurgery), QEH
Dr George NG	Associate Consultant (Intensive Care Unit) & Associate Director (Multi-disciplinary Simulation and Skills Centre), QEH
Dr Y C PO	Chief of Service (Neurosurgery), Princess Margaret Hospital
Dr T L POON	Associate Consultant (Neurosurgery), QEH
Dr W L POON	Consultant (Diagnostic Radiology), QEH
Dr T C TAN	Senior Medical Officer (Neurosurgery), QEH (up to February 2014)
Dr T S TSE	Consultant (Neurosurgery), QEH
Dr Derek WONG	Associate Consultant (Neurosurgery), QEH
Ms Kitty WONG	Nursing Officer (Electrographic Diagnostic Unit), QEH
Dr Larry WONG	Associate Consultant (Neurosurgery), QEH
Dr Maurice WONG	Senior Medical Officer (Neurosurgery), QEH (up to October 2015)
Dr Winnie WONG	Associate Consultant (Medicine & Geriatrics), Caritas Medical Centre
Dr Stephen YAU	Consultant (Clinical Oncology), QEH
Dr Eric YEUNG	Associate Consultant (Rehabilitation), KH
Dr Helen YIP	Associate Consultant (Medicine & Geriatrics), KWH
Mr Bernard YUEN	Nursing Officer (Medicine), QEH

CARDIOTHORACIC SERVICE

Co-Chairs

Dr Johnny CHAN	Chief of Service (Medicine), QEH
Dr C S CHIANG	Consultant (Medicine), QEH
Dr C C MA	Chief of Service (Cardiothoracic Surgery), QEH (up to October 2015) / Consultant (Cardiothoracic Surgery), QEH (from November 2015)

Members

Dr N C TSANG	Chief Infection Control Officer, Quality & Safety Division, HAHO / Chief Infection Control Officer, KCC / Consultant (Pathology), QEH
Dr T K AU YONG	Consultant (Nuclear Medicine), QEH
Dr K T CHAN	Consultant (Medicine), QEH
Ms M C CHAN	Nurse Consultant (Cardiac Care), QEH
Dr Winnie CHAN	Associate Consultant (Diagnostic Radiology), QEH (up to June 2015)
Ms W L CHAN	Nurse Specialist (Cardiothoracic Surgery), QEH
Dr H L CHEUNG	Chief of Service (Cardiothoracic Surgery), QEH
Ms Cindy CHUI	Advanced Practice Nurse (Medicine), QEH
Dr Douglas FOK	Associate Consultant (Anaesthesiology & Operating Theatre Services), QEH
Ms Shirley HUNG	Department Operation Manager (Central Nursing Division), QEH
Dr H Y KWAN	Associate Consultant (Respiratory Medicine), KH
Ms Irene KWOK	Cluster Manager (Speech Therapy), KCC / Senior Speech Therapist, QEH
Dr Polly LAU	Cluster Manager (Physiotherapy), KCC / Department Manager (Physiotherapy), QEH
Dr W L LAW	Associate Consultant (Medicine), QEH
Dr K Y LEE	Consultant (Medicine), QEH
Mr K F LEUNG	Clinical Service Coordinator (Allied Health) & Cluster Manager (Occupational Therapy), KCC / Department Manager (Occupational Therapy), QEH
Ms W C LI	Department Operation Manager (Cardiothoracic Surgery / Ear Nose & Throat / Neurosurgery), QEH (up to January 2015)
Ms Maggie LIT	Advanced Practice Nurse (Medicine), QEH
Ms Eva LIU	Cluster General Manager (Nursing), KCC / General Manager (Nursing), QEH
Mr H W LUK	Department Operation Manager (Intensive Care Unit & Medical Specialty), QEH
Ms Eva W L MA	Senior Occupational Therapist, QEH
Dr Thomas MOK	Chief of Service (Respiratory Medicine), KH
Dr C K NG	Consultant (Medicine), QEH
Dr W S NG	Associate Consultant (Cardiothoracic Surgery), QEH
Dr Gordon WONG	Chief of Service (Accident & Emergency), QEH
Dr K C WONG	Associate Consultant (Respiratory Medicine), KH (up to March 2014)
Dr David YU	Senior Physiotherapist, QEH

PERI-OPERATIVE SERVICE

Co-Chairs

Dr Donald TANG	Chief of Service (Surgery), QEH (up to October 2016) Consultant (Surgery), QEH (from December 2016)
Dr Steven WONG	Chief of Service (Anaesthesiology & Operating Theatre Services), QEH

Members

Dr H L CHAN	Chief of Service (Ear, Nose & Throat), QEH (up to March 2014) Consultant (Ear, Nose & Throat), QEH (from May 2014)
Ms Lena CHAN	Cluster Coordinator (Dietetics), KCC / Senior Dietitian, QEH (up to September 2014)
Ms Sabina CHAN	Speech Therapist (Speech Therapy), YMT
Dr Sammy CHAN	Consultant (Obstetrics & Gynaecology), QEH
Dr S K CHAN	Consultant (Oral-Maxillofacial Surgery & Dental), QEH
Dr H M CHIU	Chief of Service (Neurosurgery), QEH
Dr Susan FUNG	Clinical Psychology in-charge, QEH
Ms Shirley HUNG	Department Operation Manager (Central Nursing Division), QEH
Dr C H KWOK	Consultant (Diagnostic Radiology), QEH
Ms Irene KWOK	Cluster Manager (Speech Therapy), KCC / Senior Speech Therapist, QEH
Ms K Y LAW	Department Operation Manager (Orthopaedics & Traumatology, & Private Wards), QEH
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Ms Anne Lily LEUNG	Department Operation Manager (Ambulatory Care Centre), QEH
Ms W C LI	Department Operation Manager (Cardiothoracic Surgery / Ear Nose & Throat / Neurosurgery), QEH (up to January 2015)
Dr Wilson LI	Chief of Service (Orthopaedics and Traumatology), QEH
Dr K C LUI	Senior Medical Officer (Anaesthesiology & Operating Theatre Services), QEH
Dr C C MA	Chief of Service (Cardiothoracic Surgery), QEH (up to October 2015) / Consultant (Cardiothoracic Surgery), QEH (from November 2015)
Ms Eva W L MA	Senior Occupational Therapist, QEH
Dr C W TSANG	Consultant (Ophthalmology), HKEH
Ms S L TSANG	Department Operation Manager (Obstetrics & Gynaecology), QEH
Dr K F WONG	Service Director (Pathology) and Coordinator of Cluster (Public Private Interface), KCC / Deputy Hospital Chief Executive (Corporate Affairs) and Chief of Service (Pathology), QEH / HKCH Commissioning Service Co-ordinator (Pathology)
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Ms S L YUEN	Senior Nurse Manager (Central Nursing Division), QEH

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Co-Chairs

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Dr W Y TSE	Chief of Service (Paediatric), QEH

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Dr M K CHAN	Consultant (Diagnostic Radiology), QEH
Ms Annice CHANG	Advanced Practice Nurse (Trauma), QEH
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Dr C S CHIANG	Consultant (Medicine), QEH
Dr Susan FUNG	Clinical Psychology in-charge, QEH
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Ms C L LAM	Ward Manager (Intensive Care Unit), QEH
Dr C H LAU	Consultant (Surgery), QEH
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Mr H W LUK	Department Operation Manager (Intensive Care Unit & Medical Specialty), QEH
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Ms Grace TAM	Nurse Consultant (Emergency Care), QEH
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Ms Agnes WONG	Department Operation Manager (Accident & Emergency), QEH
Dr Steven WONG	Chief of Service (Anaesthesiology & Operating Theatre Services), QEH
Dr T C WU	Consultant (Medicine), QEH
Dr David YU	Senior Physiotherapist, QEH

OBSTETRICS AND NEONATES SERVICE

Co-Chairs

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Members

Dr Ide CHAN	Clinical Psychologist, QEH
Ms Lena CHAN	Cluster Coordinator (Dietetics), KCC / Senior Dietitian, QEH (up to September 2014)
Dr C H CHOI	Deputy Chief of Service (MED-Manpower & Training) and Consultant (Medicine), QEH
Dr Sandas CHOU	Associate Consultant (Radiology & Imaging), QEH (up to April 2014)
Dr Y F CHOW	Clinical Service Coordinator (Surgical), KCC / Consultant (Anaesthesiology & Operating Theatre Services), QEH
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Ms Irene KWOK	Cluster Manager (Speech Therapy), KCC / Senior Speech Therapist, QEH
Ms Christine LAM	Nurse Consultant (Breastfeeding), QEH
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Dr W H LEE	Consultant (Paediatrics), QEH (part-time)
Ms Andrea LEUNG	Senior Physiotherapist, QEH
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Dr Teresa MA	Consultant (Obstetrics & Gynaecology), QEH
Ms Alice MAN	Ward Manager (Neonate Intensive Care Unit), QEH
Ms C F POON	Advanced Practice Nurse (Maternal Fetal Medicine), QEH
Dr K L SIU	Associate Consultant (Paediatrics), QEH
Ms S L TSANG	Department Operation Manager (Obstetrics & Gynaecology), QEH
Dr C P WONG	Associate Consultant (Nuclear Medicine), QEH (up to April 2016)
Dr K F WONG	Service Director (Pathology) and Coordinator of Cluster (Public Private Interface), KCC / Deputy Hospital Chief Executive (Corporate Affairs) and Chief of Service (Pathology), QEH / HKCH Commissioning Service Co-ordinator (Pathology)
Dr W S WONG	Associate Consultant (Pathology), QEH

CANCER SERVICE

Co-Chairs

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Dr K C NGAN	Chief of Service (Clinical Oncology), QEH

Members

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Mr Ricky CHAU	Department Manager (Medical Physics, Clinical Oncology), QEH (up to August 2015)
Dr W CHEUK	Consultant (Pathology), QEH
Dr F C CHEUNG	Consultant (Neurosurgery), QEH
Dr N H CHIA	Consultant (Surgery), QEH
Dr H M CHONG	Chief of Service (Ear, Nose & Throat), QEH
Mr Patrick CHUNG	Department Manager (Technical, Clinical Oncology), QEH (up to December 2015)
Dr L Y HO	Consultant (Surgery), QEH & Director (Multi-disciplinary Simulation and Skills Centre), QEH (up to November 2016)
Mr Joe HUANG	Assistant Social Work Officer, QEH
Ms Irene KWOK	Cluster Manager (Speech Therapy), KCC / Senior Speech Therapist, QEH
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Dr June LAU	Consultant (Medicine), QEH
Dr Polly LAU	Cluster Manager (Physiotherapy), KCC / Department Manager (Physiotherapy), QEH
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Ms N W LAW	Advanced Practice Nurse (Anaesthesiology & Operating Theatre Services), QEH
Mr K F LEUNG	Clinical Service Coordinator (Allied Health) & Cluster Manager (Occupational Therapy), KCC / Department Manager (Occupational Therapy), QEH
Dr W H LI	Consultant (Obstetrics & Gynaecology), QEH
Ms Eva LIU	Cluster General Manager (Nursing), KCC / General Manager (Nursing), QEH
Dr C C MA	Chief of Service (Cardiothoracic Surgery), QEH (up to October 2015) / Consultant (Cardiothoracic Surgery), QEH (from November 2015)
Ms Margaret NG	Department Operation Manager (Clinical Oncology), QEH (up to October 2015)
Ms Winnie NG	Department Operation Manager (Surgery), QEH
Dr Desmond NGUYEN	Deputy Hospital Chief Executive and Consultant (Psychiatry), KH
Dr Y C SO	Consultant (Orthopaedics and Traumatology), QEH
Ms Suzanna SO	Assistant Social Work Officer (Patient Resource Centre), QEH
Dr C M TONG	Consultant (Nuclear Medicine), QEH (up to April 2016)
Dr K F WONG	Service Director (Pathology) and Coordinator of Cluster (Public Private Interface), KCC / Deputy Hospital Chief Executive (Corporate Affairs) and Chief of Service (Pathology), QEH / HKCH Commissioning Service Co-ordinator (Pathology)
Dr K H WONG	Consultant (Clinical Oncology), QEH
Dr W K WONG	Consultant (Radiology & Imaging), QEH
Dr Stephen YAU	Consultant (Clinical Oncology), QEH
Dr H L YUEN	Consultant (Paediatrics), QEH

KIDNEY DISEASE SERVICE

Co-Chairs

Dr W H AU	Consultant (Surgery), QEH
Dr K F CHAU	Chief of Service (Medicine), QEH (up to May 2016) Consultant (Medicine), QEH (from July 2016)

Members

Dr W L CHAK	Consultant (Medicine), QEH
Dr Gordon CHAN	Associate Consultant (Pathology), QEH (up to Feburary 2015) / Honorary Consultant (Pathology), QEH (from March 2015)
Dr John Y H CHAN	Associate Consultant (Medicine), QEH
Dr H W CHAN	Associate Consultant (Medicine), QEH
Dr K S CHAN	Associate Consultant (Surgery), QEH
Ms Y M CHAN	Advanced Practice Nurse (Renal), QEH
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Mr Ryan CHAN	Assistant Social Work Officer (Patient Resources Centre), QEH
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Dr C Y CHEUNG	Associate Consultant (Medicine), QEH
Ms Chris CHING	Ward Manager (Renal), QEH
Dr K S CHOI	Senior Medical Officer (Medicine), QEH
Dr L Y HO	Consultant (Surgery), QEH & Director (Multi-disciplinary Simulation and Skills Centre), QEH (up to November 2016)
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Dr C F KAN	Associate Consultant (Surgery), QEH
Mr Paul W Y LAM	Manager (Critical Incident Psychological Support), QEH
Ms Winnie LAM	Social Work Officer (Medical Social Service Unit), QEH
Dr Polly LAU	Cluster Manager (Physiotherapy), KCC / Department Manager (Physiotherapy), QEH
Ms Janet LI	Nurse Consultant (Renal), QEH (up to September 2016)
Ms Eva LIU	Cluster General Manager (Nursing), KCC / General Manager (Nursing), QEH
Ms Eva W L MA	Senior Occupational Therapist, QEH
Dr H Y NGAI	Associate Consultant (Surgery), QEH
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Ms M L PONG	Transplant Coordinator, QEH
Ms Michelle TSE	Clinical Psychologist, QEH
Mr H C TO	Nurse Consultant (Urology), QEH
Dr K W TANG	Service Director (Radiology), KCC / Chief of Service (Diagnostic Radiology), QEH
Dr C M TONG	Consultant (Nuclear Medicine), QEH (up to April 2016)
Dr William TSANG	Consultant (Pathology), QEH
Dr C P WONG	Associate Consultant (Nuclear Medicine), QEH (up to April 2016)
Dr Joseph WONG	Associate Consultant (Medicine), QEH

MUSCULOSKELETAL DISEASE SERVICE

Co-Chairs

Dr M H LEUNG	Consultant (Medicine), QEH
Dr Wilson LI	Chief of Service (Orthopaedics & Traumatology), QEH

Members

Dr YT AU YEUNG	Associate Consultant (Medicine), QEH
Ms B K CHAN	Advanced Practice Nurse (Medicine), QEH
Dr David CHONG	Associate Consultant (Anaesthesiology & Operating Theatre Services), QEH
Dr K C LAI	Consultant (Diagnostic Radiology), QEH
Ms Winnie LAM	Social Work Officer (Medical Social Service Unit), QEH
Dr Polly LAU	Cluster Manager (Physiotherapy), KCC / Department Manager (Physiotherapy), QEH
Ms K Y LAW	Department Operation Manager (Orthopaedics & Traumatology & Private Wards), QEH
Mr Sam LAW	Prosthetics & Orthotics, QEH
Dr K K LI	Consultant (Orthopaedics and Traumatology), QEH
Ms Eva LIU	Cluster General Manager (Nursing), KCC / General Manager (Nursing), QEH
Ms Eva W L MA	Senior Occupational Therapist, QEH
Dr Y F MAK	Consultant (Geriatrics), QEH
Mr K K TSANG	Nurse Consultant (Orthopaedics & Traumatology), QEH

ELDERLY SERVICE

Co-Chairs

Dr Mandy FUNG	Chief of Service (Rehabilitation), KH (up to May 2014)
Dr Y F MAK	Consultant (Geriatrics), QEH
Dr Gordon WONG	Chief of Service (Accident & Emergency), QEH

Members

Ms Iris CHAN	Clinical Psychologist , QEH
Ms Lena CHAN	Cluster Coordinator (Dietetics), KCC / Senior Dietitian, QEH (up to September 2014)
Ms L H CHAN	Department Operation Manager (Ambulatory Care Centre), QEH (up to December 2014)
Dr L T CHAN	Associate Consultant (Geriatric), QEH
Dr Sandy CHAN	General Manager (Nursing), BH
Ms W C CHAN	Assistant District Social Welfare Officer, Kowloon City & Yau Tsim Mong District Social Welfare Office
Mr S Y KWAN	General Manager (Nursing), KH
Ms Irene KWOK	Cluster Manager (Speech Therapy), KCC / Senior Speech Therapist, QEH
Mr Paul LAM	Manager (Critical Incident Psychological Support), QEH
Ms W M LAM	Unit Manager, (Community Geriatric Assessment Team and Geriatric Day Hospital), QEH
Dr Polly LAU	Cluster Manager (Physiotherapy), KCC / Department Manager (Physiotherapy), QEH
Mr Sam LAW	Prosthetics & Orthotics, QEH
Mr K F LEUNG	Clinical Service Coordinator (Allied Health) & Cluster Manager (Occupational Therapy), KCC / Department Manager (Occupational Therapy), QEH
Dr Wilson LEUNG	Senior Pharmacist (Pharmacy), QEH
Dr Wilson LI	Chief of Service (Orthopaedics & Traumatology), QEH
Ms Eva LIU	Cluster General Manager (Nursing), KCC / General Manager (Nursing), QEH
Ms Faith LIU	Nursing Consultant (Palliative Care) , QEH
Dr K M LO	Associate Consultant (Geriatric), OLMH
Ms Natalie LUI	Unit Manager (Integrated Care Discharge Support / Community Geriatric Assessment Service), KH
Dr Jennifer MYINT	Chief of Service (Rehabilitation), KH
Dr C M Patrick NG	Senior Medical Officer (Medical), BH
Dr H Y NGAI	Associate Consultant (Surgery), QEH
Dr T K POON	Consultant (Psychiatry), KH
Ms Ivy TANG	Department Operation Manager (Community & Extended Care Services), WTSH

MENTAL HEALTH SERVICE

Co-Chairs

Dr Roger NG	Clinical Service Coordinator (Mental Health) & Cluster Coordinator (Clinical Research & Ethics), KCC / Chief of Service (Psychiatry), KH
Dr T K POON	Consultant (Psychiatry), KH

Members

Dr King CHAN	Chief of Service (Family Medicine & Primary Health Care), QEH
Dr Rosanna CHAU	Department Manager (Physiotherapy), KH
Dr Serena NG	Department Manager (Occupational Therapy),KH
Dr L CHIU	Consultant (Psychiatry), KH
Ms Grace CHOI	Medical Social Worker in-charge, KH
Mr Yuk Loi HO	Unit Manager (Psychiatry), KH
Dr L K HUI	Associate Consultant (Psychiatry), KH (up to March 2014)
Dr W K LAM	Associate Consultant (Psychiatry), KH
Mr K S LAU	Nurse Consultant (Psychiatry), KH
Mr Y C LAU	Department Operation Manager (Psychiatry), KH
Dr H W LEE	Associate Consultant (Psychiatry), KH
Ms Flora LEUNG	Cluster Coordinator (Clinical Psychology), KCC / Senior Clinical Psychologist (Psychiatry), KH
Ms Mei Lin LEUNG	Ward Manager (Psychiatry), KH
Ms Ada LO	Senior Occupational Therapist (Occupational Therapy), KH
Dr Desmond NGUYEN	Deputy Hospital Chief Executive & Consultant (Psychiatry), KH
Mr K P PANG	Ward Manager (Psychiatry), KH
Ms Yin Wan PANG	Ward Manager (Psychiatry), KH (up to May 2014)
Mr Sai Wing SEOW	Advanced Practice Nurse (Psychiatry), KH
Ms Maria SIU	Department Operation Manager (Psychiatry), KH
Mr Cheuk Kin TANG	Unit Manager (Community Psychiatric Service), KH
Dr Alfert TSANG	Associate Consultant (Psychiatry), KH (up to April 2015)
Dr G C YIU	Service Director (Psychiatry), KEC
Collaborating Partners:	Accident & Emergency Department, QEH Department of Clinical Oncology , QEH Pain Clinic – Department of Anaesthesiology & Operating Theatre Services, QEH Renal team – Department of Medicine, QEH

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