數碼圖像
看得到的手術安全
Filmless OT enhances surgical services

數碼圖像無疆界 跨院存取超方便

No more boundaries for radiology images

精細的圖像資訊對臨床診斷及治療成效具關鍵作用。醫院管理局自2015年4月起開展手術室數碼圖像計劃，至今成功在七個聯網設有手術室的23間醫院，超過230間手術室應用。前線醫療團隊透過計劃可迅速檢索病人數碼圖像，掌握更多病人身體狀況，進行術前規劃，提升手術安全、質素及成功率。

「手術室數碼圖像技術最大的好處是打破地域限制，透過簡化圖像資料傳送的流程，提升跨醫院和跨部門手術的溝通和效率。」身兼手術室數碼圖像計劃諮詢委員會主席及屯門醫院腦神經外科部門主管的任廣銳醫生解釋，病人在醫院接受初步檢查後，或會被轉介至另一醫院進行手術及跟進治療。推行計劃以前，跨院就醫的病人完成放射診斷後，需提取沖曬的硬片圖像到另一醫院，才可繼續治療，過程繁複費時，遺失資料的風險亦大。

推行新計劃後，數碼圖像可即時跨院、跨部門傳送。病人轉送至另一醫院或專科途中，不同專科的醫生已可於其工作間的臨床圖像工作站，查閱病人的數碼圖像，評估病人情況，提升救治效率。

另一方面，任醫生形容新計劃讓前線醫生規劃手術時「有圖有真相」。醫管局為不同專科部門的工作間及手術室增設電腦及圖像處理系統，供前線醫生查閱病人圖像，規劃手術。系統既可組合病人所有薄切片圖像，並轉化至多維圖像，除了呈現立體的器官，更可看到器官收縮擴張和跳動的頻率；亦具備量度器官體積、直徑等功能，從多角度檢視各組器官的位置。

他以腦血管瘤手術為例，醫生在圖像處理系統中預視及模擬手術流程，制訂最合適病人的手術方案，包括決定從哪個位置及角度下刀最好、如何保護周邊正常組織等。經規劃後的圖像會傳送至手術室，以便手術期間參考。總之，圖像愈精細，醫生就愈能作出更全面的術前規劃。

經規劃後的數碼圖像會被傳送至手術室，以便查閱及手術期間作參考之用。
Processed images will be sent and displayed in operating theatres.

身兼手術室數碼圖像計劃諮詢委員會主席及屯門醫院腦神經外科部門主管任廣銳醫生指出，圖像處理系統可將多張薄切片圖像，轉化至多維圖像，讓醫生掌握更多病人身體狀況。
Dr Yam Kwong-yui, Chairman of the Filmless OT Project Advisory Group and Chief of Services of Department of Neurosurgery in Tuen Mun Hospital, says that multi-planar reconstruction and 3D volume rendering allow surgeons to understand the anatomy of diseased organs and their surrounding tissues.

Radiology images are essential to accurate clinical diagnosis and effective treatment. Since April 2015, Hospital Authority (HA) has launched the Filmless Operating Theatres (Filmless OT) Project and introduced the technology in 23 hospitals, with over 230 operating theatres across all seven clusters. Not only does the project allow quick and easy access to digital radiology images for knowing better of patients' conditions, but it also re-engineers the clinical practices, especially pre-operative planning, to enhance service quality and patient safety.

"Digitalised imaging transcends geographical constraints and simplifies the process of image acquisition for better inter-departmental or hospital communication," says Dr **Yam Kwong-yui**, Chairman of the Filmless OT Project Advisory Group and Chief of Services of Department of Neurosurgery in Tuen Mun Hospital. He explains that patients might be transferred to another hospital after radiology examination. Before the implementation of Filmless OT Project, patients had to bring along with the physical imaging films for surgery and follow-up, which was way more time-consuming and subjected to a higher risk of image loss.

Nowadays, clinicians from different specialties can access the radiology images soon after patients' examination as the digitalised images are all uploaded to the corporate-wide central storage. For those cases that need inter-hospital transfer, clinicians can even retrieve the images for preliminary review during the course of patient transportation.

With the installation and use of image processing system inside and outside operating theatres, clinicians can plan the operation in advance. For example, multi-planar reconstruction and 3D volume rendering are two commonly used functions of the system which turns 2D radiology images into a 3D view. These facilitate clinicians to 'visualise' the inside of patient's body, or even have a detailed look at the expansion, contraction or other multi-perspective inspection of the involved operative site. Diameter or volume measurements of an internal organ are other features that support pre-operative planning as well.

Taking cerebrovascular aneurysm as an example, Dr Yam explains how the image processing system facilitates clinicians to preview and simulate the operation. It shows clinicians the operative site from multiple angles, and provides a view to seeing the exact size and shape of the aneurysm and all the surrounding branches. As such, surgeons will know and decide which approach (e.g. coiling or clipping) is a better option for the patient. On the day of operation, processed images will be sent and displayed on the viewing equipment inside operating theatres as a reference. In short, clinicians can make a better operative plan with all these fine cut radiology images.

數碼圖像計劃發展史
Development of filmless technology

第一階段（2009年至2014年）：硬片變軟片

在全港所有公立醫院主要臨床服務範圍全面實行數碼醫療圖像技術，以數碼圖像（軟片）取代傳統X光片（硬片）。病人的X光片圖像或資料直接存入放射學資訊系統，醫護人員可隨時在病房及診所的圖像工作站查閱資料，省卻運送菲林片的工序。

Stage 1 (2009-2014): From physical to digital films

The digitalised radiology imaging system was fully implemented in all public hospital wards by replacing physical films with digital images. Radiology images are acquired, stored, transmitted and displayed digitally for simultaneous access and analysis across hospitals and departments through the Radiology Information System. This helps streamline the workflow and save the portering cost of physical films.

第二階段（2015年至2018年）：手術室數碼圖像計劃

有八個專科參與計劃，包括腦神經外科、外科、骨科、耳鼻喉科、眼科、婦產科、臨床腫瘤科及放射科。當病人完成放射診斷後，數碼圖像會儲存於新設的中央儲存庫，供醫生查閱，進行術前規劃。

Stage 2 (2015-2018): Filmless Operating Theatres Project

Eight specialties are engaged in the project, including Neurosurgery, Surgery, Orthopaedics & Traumatology, Ear, Nose & Throat, Ophthalmology, Obstetrics & Gynaecology, Clinical Oncology and Radiology. All radiology images will be uploaded to the corporate-wide central storage after patient's examination, and clinicians can then retrieve for pre-operative planning.

第三階段（2018年至2020年）：進階圖像處理系統實時圖像整合計劃

將第二階段未能涵蓋（手術室外）的進階圖像處理系統，連接至放射科中央儲存庫，以統一檢索數碼圖像的流程，以及支援相關醫療程序。

Stage 3 (2018-2020): Real-time Integration of Radiology Images in Supporting Clinical Procedures

Standardise the workflow of radiology image acquisition by connecting the image processing systems not covered in stage 2 (outside Operating Theatres) to the central corporate-wide radiology image infrastructure after technical vetting.

流程化繁為簡
400萬套圖像瞬間安全送達

Streamlined workflow model for four million sets of radiology images

手術室數碼圖像計劃提升了處理、傳送、運用和儲存數碼圖像方面的軟硬件配套及技術，惠及放射部和前線醫生，且看不同崗位的同事，如何透過新技術改善工作流程，提升病人手術安全和工作效率。

Filmless OT Project benefits radiology teams and frontline clinicians with enhanced hardware, software and technology in processing, acquisition, retrieval, usage and storage of digitalised radiology images. Below are the sharings from colleagues of different departments on how the project streamlines their workflow, with an ultimate aim to enhance service quality and patient safety.

第一站 放射部
1. Radiology Department

厚片薄片 同時上載
Upload of both 'thick cut' and 'thin cut' images

東區尤德夫人那打素醫院放射部顧問醫生邱麗珊表示，當病人完成X光、電腦掃描造影等放射檢查後，數碼圖像會自動上載至兩個儲存庫：一個是儲存普通掃描片（亦稱厚片）的儲存庫，而另一個是薄切片儲存庫。醫生可按所需的圖像精細程度，在該兩個儲存系統輸入病人身份證號碼，查閱影像。

她舉例稱，一般腦掃描的普通圖像約有30張，而薄切片則約有300張，後者可看到更多、更精密的影像。

她續說，從前的硬片年代全以人手處理為主，「每當專科醫生需要某一張底片時，我們需要請同事抽出相關底片、入袋，再找人親身送至醫生手上，相當耗時，人為失誤風險高。現時，全由電腦系統自動傳送，更安全和方便，同事不用擔心找錯底片、入錯袋、送錯病房！」

Dr **Jennifer Khoo**, Consultant of Radiology Department from Pamela Youde Nethersole Eastern Hospital, explains how digital radiology images are uploaded to two storage systems after patient's X-ray, CT or other examinations. One system is used for storing thick cut images, while the other is for thin cut images. Clinicians can enter patient's HKID number to both systems to view images according to their clinical requirements.

Taking CT brain scan as an example, one examination usually generates about 30 thick cut and 300 thin cut images respectively, among which the latter type provides more details to clinicians.

In the past, transfer of physical imaging films required much manual handling, Dr Khoo continues. "We needed colleagues to select, pack and deliver the physical films to the clinician in person. This practice was time-consuming, labour-intensive and prone to human errors. With the recent enhancement of radiology infrastructure, we have achieved a streamlined, automated workflow which is hassle-free and eliminates the potential risks. Most importantly, it enhances patient safety."

放射科同事正在將相關數碼圖像上載至兩個不同要求的儲存庫，以供醫生查閱。
Colleagues of the radiology department are uploading images to two storage systems to facilitate clinicians' easy access.

厚片 VS 薄切片 Thick cut image VS thin cut image

	厚片 Thick cut image	薄切片 Thin cut image
每張圖像橫切面的厚度 Thickness of each cross-sectional image	三至五毫米 Three to five millimetres	半至一毫米 Half to one millimetre
產生圖像數量 Number of images produced	較少 Less	較多 More
圖像精細度 Level of image detail	較低 Lower	較高 Higher

第二站 資訊科技及醫療信息部
2. Information Technology and Health Informatics Division

後方支援 中央龐大儲存庫
Back-end support with an enormous corporate-wide central storage system

資訊科技及醫療信息部臨床醫療部門系統組高級系統經理林景雲表示，現時全港公立醫院每年產生400萬套病人掃描圖像，平均每套圖像有逾700張薄切片圖像。

醫管局的數據中心增設中央儲存庫，一端連接所有公立醫院放射部的「圖像資料傳輸系統」，以便統一儲存及管理所有病人的數碼圖像。另一端同時連接醫院醫生工作間的臨床圖像工作站，傳輸圖像。每當醫生查閱病人圖像，系統會記錄索取日期、時間及查閱圖像數目等，以保障病人私隱及供日後翻查。

Amber Lam, Senior Systems Manager (Clinical Departmental Systems) of Information Technology and Health Informatics Division, says that four million sets of radiology images are produced annually in public hospitals in Hong Kong, among which each set of thin-cut CT constitutes 700 images on the average.

The central storage system in HA data centre serves as a 'hub' and has two major functions. It connects to the 'Picture Archiving Communication System' of all HA hospitals for uploading and storing radiology images; at the same time, this central storage system is connected to the image processing systems installed inside and outside operating theatres to facilitate and support clinicians' pre-operative planning. The system keeps a record log with details of data access such as date and time of image access and number of images viewed etc. This record is a safety measure in protecting patients' privacy and supports future tracking whenever indicated.

新增的中央儲存庫統一儲存及管理影像，讓同事可跨院查閱病人掃描圖像。
The new infrastructure centralises image storage and management to enable efficient access and sharing across the entire HA.

第三站 手術室內外的圖像處理系統
3. Image processing systems inside and outside OT

術前預習 節省手術時間
Pre-operative planning shortens operation time

伊利沙伯醫院外科部副顧問醫生陳廣迅主要負責血管瘤手術，如主動脈瘤微創支架手術，需要利用電腦掃描圖像做術前準備。

他舉例稱，以往沒有精細的薄切片圖像，只能大約預料放置C型臂X光機的位置，再於手術室內臨床調節至適合的角度；現時利用系統上的多維平面重構技術，便可預計最佳放置角度。更好的術前準備，不單令醫生充分了解病人患處的細節，更可節省一半手術時間多一小時。

陳醫生續指出，以往有些邊緣個案基於考慮對病人風險、手術複雜程度等因素後，會被評估為不適合做微創支架手術。但現時醫生可掌握更多病人的資料，部分邊緣個案並能因此受惠。再者，這些薄切片圖像儲存期為一年，此措施方便了醫生在病人復期間比較支架不同時期的狀況。

另外，醫生、護士及支援人員在手術過程暴露於X光的時間相對減少，這對保障職安健絕對有幫助。

伊利沙伯醫院外科部副顧問醫生陳廣迅。
Dr Chan Kwong-shun, Associate Consultant of Department of Surgery, Queen Elizabeth Hospital.

Dr **Chan Kwong-shun**, Associate Consultant of Department of Surgery, Queen Elizabeth Hospital, is a vascular surgeon who performs operations like endovascular abdominal aortic aneurysm repair and stenting for patients with vascular abnormalities. He frequently uses CT thin cut images for pre-operative planning.

Dr Chan gives an example of how these precise radiology images facilitate his operation planning. Back to the days when there was no CT thin cut image, clinicians could only adjust the position of C-arm X-ray intra-operatively after seeing patient's anatomical structures. With the assistance of the image processing system, he can now make use of its powerful function like multi-planar reconstruction to conduct assessment and planning before operation, and decide the best approach for the patient. This pre-operative planning allows clinicians to have a thorough understanding of patients' operative site, and the operation time can therefore be shortened by half to approximately an hour.

In the past, some patients were declined from the operation after considering the operation complexity and risk. As clinicians can now obtain more details through the image processing system and simulate the clinical procedure pre-operatively, the option for operation is now re-opened for some of these marginal cases. Moreover, as these thin cut images can be stored for one year, it supports clinicians to make comparisons on the stent condition during patients' different phases of rehabilitation.

What is more, the time for clinicians, nurses and supporting staff exposing to X-ray during operations is reduced, which in turn promotes occupational safety and health of clinical staff.

醫生及其團隊在術前討論執行細節。
Doctor and teammates are viewing patient's radiology images and discussing the pre-operative plan.

九年艱苦經營 一步一腳印
Triumph over 9-year uphill struggles

數碼圖像計劃已推行九年，過程由零開始，參與計劃的總辦事處及聯網團隊需要與不同的醫院和部門闡釋理念，又要說服管理層和同事接受新思維和做法，一步一步跨過難關，才有今日的成績。現在一起細聽計劃的多位靈魂人物訴說，各人在自己的範疇中所遇到的挑戰，以及解決方案。同事不妨參考一下，為下個提升服務質素的新計劃作好準備。

It took Hospital Authority nine years to walk through the winding path of implementing filmless technology corporate-wide. Members of both the head office and cluster project teams braced themselves through a remarkable lobbying process. They not only needed to explain the ideas to colleagues from different hospitals and departments, but also had to convince the management in accepting the paradigm shift and workflow change. After years of tireless efforts, their hard work finally pays off. Let us listen to the linchpins of the project on how they made their way. Their experiences may serve as inspirations for the next service enhancement project.

李紹良
Lee Siu-leung
東區尤德夫人那打素醫院一級放射師，
Radiographer I, Radiology Department,
Pamela Youde Nethersole Eastern Hospital

林景雲
Amber Lam
資訊科技及醫療信息部臨床醫療部門系統組高級系統經理，
Senior Systems Manager (Clinical Departmental Systems Section), Information Technology and Health Informatics Division

任廣銳醫生
Dr Yam Kwong-yui
屯門醫院腦神經外科部門主管，
Chief of Services, Department of Neurosurgery, Tuen Mun Hospital

邱麗珊醫生
Dr Jennifer Khoo
東區尤德夫人那打素醫院放射部顧問醫生，
Consultant, Radiology Department, Pamela Youde Nethersole Eastern Hospital

遇到同事反對聲音，怎麼辦？
How did you handle lukewarm receptions from colleagues?

李紹良：推行期間，的確有同事不願意改變，推說他自己不會用，情況就如你習慣使用速成輸入法，不太願意改用倉頡或另一種輸入法。因此，我花了無比毅力去說服各部門同事，告訴他們新做法的好處是快捷、方便和提升病人安全，減少人為失誤。同事明白新技術是大勢所趨及其好處後，都樂意接受，改變以往的工作模式。

Lee Siu-leung: Our calls for staff participation in the project had sometimes received lukewarm receptions. It is like asking someone to switch to using 'Cangjie' Chinese input method but he was already an experienced user of the 'Quick' input. Therefore, I put huge efforts in communicating with colleagues from different departments to promote the advantages of the new workflow, which is a streamlined one that enhances service quality and patient safety. As soon as they understood this is the corporate direction and conducive to their work, they were willing to accept the changes and embrace the new technology.

跟進此計劃最大的感受是甚麼？
What do you feel the most about working on this project?

李紹良：我花了三年時間為港島東醫院聯網的手術室跟進這項計劃。過程難艱辛，既要與不同部門同事聯絡，且要經常加班。由於計劃對同事對病人均有莫大的裨益，我也盡百分的努力去做。與不同部門的同事溝通，可增加彼此信任和諒解，易地而處想對方的困境，一起解決難題，也令日後的合作更順利。

Lee Siu-leung: It was a challenging task to roll out the project in the Hong Kong East Cluster over past three years. Despite the lobbying and overtime work, I was willing to commit myself to achieving better clinical services. After the in-depth communication with colleagues from different departments and hospitals these years, I think we all have increased understanding to each other's needs and difficulties, and we have developed mutual trust, which certainly helps to facilitate our future collaboration.

如何培訓前線同事使用新技術？
How do you train colleagues to accommodate the new system and software?

任廣銳醫生：各專科部門醫生採用「自己人自己教」的方式，教授其他同事使用數碼圖像處理軟件。除了定期舉辦工作坊，醫生代表亦會錄製教學短片，並上載至內聯網，供同事隨時溫故知新。

Dr Yam Kwong-yui: The 'train-the-trainer' approach is adopted to equip frontline colleagues with basic and advanced techniques of using the image processing system. Apart from organising training workshops, different specialty-specific eLearning videos are developed and uploaded to HA intranet for clinicians' easy access.

如何安排在手術室添置新儀器？
How was the installation of Filmless OT hardware in operating theatres arranged?

李紹良：在手術室增設相關儀器配套時，大前提是不能影響手術室運作，所以朝九晚五都不方便進行裝置工作。我們一般要待繁忙時間過後，約傍晚五時才能開始「睇場」和與同事商討安裝細節。

Lee Siu-leung: On the premise of not interrupting the operation of operating theatres, the discussion and installation of Filmless OT hardware had to be undergone out of nine-to-five duty hours.

萬一電腦系統「死機」，怎麼辦？
Is there any contingency plan in case of system breakdown?

林景雲：所有手術室數碼圖像計劃的軟硬件系統，包括中央儲存庫及手術室內外的圖像處理系統，均設後備系統，以備不時之需。

邱麗珊醫生：現今醫院已沒有沖曬底片的黑房，但有一部供打印數碼圖像的打印機作備用。當圖像資料傳輸系統失靈時，放射部同事只需將圖像傳送至該打印機列印，轉交醫生查閱使用。相關圖像硬本會儲存於特定地方。當系統成功修復後，放射科同事會重新將影像上載至儲存庫，確保病人記錄連貫。

Amber Lam: There is a secondary site or resilience along the whole image distribution flow of Filmless OT Project. This includes the radiology central infrastructure and processed image storage for displaying images inside theatres, image processing systems both inside and outside operating theatres.

Dr Jennifer Khoo: Although we do not develop physical films anymore, we still have a printer for printing radiology images in case there is an emergency breakdown of 'Picture Archiving Communication System' at hospital level. Physical films will then be sent to frontline clinicians and stored separately until the technical problems are fixed. All the digitalised radiology images will be uploaded to the central storage again when services resume normal to ensure completeness of medical records.

如何防止病人的數碼圖像外洩？
How to protect patient's privacy when using these radiology images?

林景雲：所有供醫生查閱數碼影像的電腦均設於上鎖的醫生工作間內。另外，以往醫生只需輸入病人姓氏或名稱便可搜尋病人掃描圖像。但現時醫生必須輸入病人身份證號碼方可查閱，而每次只可查閱一名病人的圖像。電腦系統會記錄每次索取圖像日期、時間、次數、工作站位置等資料。

數碼圖像系統只適用於 Mac 平台，惟此平台不能對記憶棒等外置儲存器執行強制加密。有見及此，總辦事處和各聯網資訊科技部同事合作加設一套中轉系統，方便轉化 Mac 平台的數碼圖像至微軟平台。同事便可在微軟平台的電腦，使用已加密的外置儲存裝置儲存圖像。

Amber Lam: All the image processing systems of Filmless OT Project are located in secured clinical areas with limited staff access. Compared to the old practice in which clinicians could simply search images with any last or first name of a patient, they are now required to key in patient's unique HKID number for image access. Also, clinicians can only retrieve images of one patient at a time. An access log that records the retrieval date, time, number of images retrieved and location of the workstation will be generated and kept.

The software of the image processing system only runs on Mac OS, which allows no forced encryption on external storage devices. In view of this, head office and cluster IT teams collaborated to work out an approach in supporting clinicians to export their processed images from Mac OS to Windows platform whenever indicated.

東華三院檔案及歷史文化總主任史秀英
Stella See, Head of Records and Heritage Office, Tung Wah Group of Hospitals

東華三院文獻修復主任黎鎮英
Lai Chun-ying, Conservation Specialist, Tung Wah Group of Hospitals

紙劫重生
細味廣華百年歷史瑰寶
Restoring the distinct past of KWH

1911年成立的廣華醫院是九龍及新界區首間華人醫院，至今保留數以千計的百年醫療檔案，如醫院總冊、產房出生紀錄、死亡總冊、產婦入院總冊及手術室紀錄等，都是香港絕無僅有的歷史珍藏。廣華醫院去年把加入醫管局前的1,249本醫療檔案移交東華三院永久保存。早在2013年，東華聘請修復專家，並得到康樂及文化事務署文物修復辦事處的協助，用四年時間修復由1917年至1945年的中式醫院總冊，重塑當年醫療發展的景象。而現時東華正修復更早年的醫院出生紀錄。就讓東華三院檔案及歷史文化總主任史秀英和文獻修復主任黎鎮英，告訴你這些醫療檔案當中的有趣發現！

Founded in 1911 as the first Chinese hospital in Kowloon and the New Territories, Kwong Wah Hospital (KWH) houses thousands of century-old medical records including hospital registries, birth and death records, maternity records and operating theatre records which are unique to Hong Kong. Last year, a total of 1,249 copies of medical records, which were created before the establishment of Hospital Authority, were handed over to the Tung Wah Group of Hospitals (TWGHs) for permanent storage. Dating back to 2013, TWGHs engaged conservation specialist and collaborated with the Conservation Office of the Leisure and Cultural Services Department to restore the Chinese-styled binding hospital registries from 1917 to 1945. The restoration project was completed in four years. And now, the team are working on the birth records. Let's explore the lesser-known stories from KWH records with Stella See, Head of Records and Heritage Office, and Lai Chun-ying, Conservation Specialist of TWGHs.

華人忌諱拒入院

20世紀初的華人普遍視醫院為不祥地，很多病人病入膏肓才入院，因此不治人數眾多。以1917年為例，2,388名入院病人當中有697人死亡，死亡率近30%。在農曆新年期間入院的病人明顯減少，正月初一更是零入院，反映華人重視兆頭。此外，當年求診病人以男性居多，或與女性社會地位較低及醫院全是男醫師有關，因華人女性認為男女授受不親，故不願求醫就診。

Chinese taboos

In the early 20th century, many patients would only go to hospital as the last resort because hospital was deemed an ominous place in the Chinese community. For instance, there were 2,388 inpatient admissions in 1917, 697 of whom died during hospitalisation, accounting for an inpatient death rate of 30%. There was zero inpatient admission recorded on the first day of Lunar New Year – another evidence illustrating how hospital visit was considered as a bad omen in Chinese culture at that time. Due to the lower social status of women who tended to avoid any close body contact with male doctors, male patients outnumbered female ones.

西醫月薪較中醫高五倍

廣華醫院設中西醫服務，開院時駐有四名中醫師，翌年聘請了首位西醫李賢仕。早期華人對西醫缺乏信心，故多選擇中醫治療，當涉及外科及產科治療時，才選擇西醫。儘管中醫師較受歡迎，其月薪在1912年只有30至40元，與西醫師的200元月薪相比，實在是天壤之別。若以1911年10月醫院訂購白米紀錄為例，當時每斤白米只需約七仙，200元足以購買逾2,800斤白米，約可供全院病人食用四個月。

A western medicine practitioner earned five times as much as a Chinese medicine practitioner

Both western and traditional Chinese medicine were provided in KWH, with four Chinese medicine practitioners serving after the hospital inception and Dr Y S Lee, the first western medicine practitioner in KWH, was recruited in the following year. By and large, Chinese patients preferred Chinese medical treatment, except for surgical and obstetric cases. In 1912, the pay for a Chinese medicine practitioner was between 30 to 40 dollars per month, comparing to 200 dollars for a western medicine practitioner. Taking seven cents per catty of rice in October 1911 as a reference, 200 dollars equalled the value of 2,800 catty of rice, which were enough for the whole hospital for four months.

病人住址尋香港舊街名

從第二次世界大戰前的廣華醫院總冊可見病人主要來自九龍，包括旺角、油麻地、紅磡、竹園及艇戶。偶爾也有病人來自潔淨局（後稱市政局）、鄉下、由警局轉介過來，甚至無住所。

Recount of old places in HK

Before the Second World War, KWH mainly served residents in Kowloon including Mong Kok, Yau Ma Tei, Hung Hom, Chuk Yuen and boat dwellers. Sometimes, there may even be patients from Sanitary Board (later named Urban Council), the Mainland China, referrals from the police or even homeless people.

舊地名 Former names	現稱 Current location
麻（蔴）地 Ma Tei	油麻地 Yau Ma Tei
乍畏街 Jervois Street	蘇杭街 Jervois Street
砵崙街 Portland Street	砵蘭街 Portland Street
西角街 Sai Kok Street	深水埗海壇街一帶 Near Hai Tan Street in Sham Shui Po

西法接生帶動廣華醫院西醫發展

1915年廣華醫院增設西法接生服務，大受歡迎。在50、60年代的高峰時期，每張產科病床安排三至四名產婦共用。華人深信「多子多福」，甚至有產婦分娩16次。

Obstetric service drove the development of western medication

Obstetric service was introduced in 1915 and was well-received by the public. During the service peak between the 1950s and 1960s, three to four pregnant women had to share an obstetric bed at the same time. Given how the concept of 'more sons, more blessings' prevailed, it was recorded that a woman had given birth to as many as 16 babies.

醫產房紀錄詳盡，包括產婦分娩時刻、胎數分娩狀況，例如胎盤前置、產前或產後抽筋、胎兒橫產、施鉗等資料。

Detailed information could be found in the birth register which included delivery time and parity, conditions associated with the delivery of a newborn, such as placenta praevia, eclampsia, transverse lie or forceps delivery.

修復過程　補舊如舊　'Like for like' approach in restoration

昔日醫院職員處理總冊等舊檔案，僅將其對摺，放進公文袋，存放於醫院的冊籍房，存放環境不理想。蟲蛀、蟲蛀、以膠紙及藥水膠布黏貼欄冊，均令紙張殘破不全；水患令紙張粘連、顏色發黃。直至在修復專家手中，才以「補舊如舊」為原則，逐頁處理，由訂定修復方案至最後回復線裝面貌，一本總冊可花上一個月時間修復。廣華醫院醫院行政總監張煜暉醫生感謝專業團隊修復這些珍貴的文化遺產，不但延續了歷史檔案的生命，更成為日後研究香港醫療服務歷史的寶庫。

Undesirable storage practices in the past made it difficult to restore the KWH medical records. Staff used to fold and pack the historical documents in envelopes and store them in the record store. The archives became dilapidated and fragile due to serious insect infestation. Practices of using plastic tape and bandage for sticking the papers also caused undesirable condition of the medical records. Water damage also caused papers clinging together and discoloured. 'Like for like' approach was adopted to repair historical archives. It took one month to repair one register, from the development of a restoration plan for the tattered archive to the actual restoration of document to its previous states. Dr **Eric Cheung**, Hospital Chief Executive of KWH is grateful for the contributions the professional conservation team made in restoring these invaluable historical records and the stored archives. The records are a treasure trove to facilitate the public to study and understand the history of Hong Kong medical services.

1. 放進氮氣滅蟲室消滅蟲害，並查核狀況
   Use nitrogen chamber for pest control. Examine the status of the document.

2. 分拆書頁，表面除垢
   Separate a book into pages. Remove stains and dust.

3. 書皮：選布，調配顏料，染色，風乾待用
   Book cover: select a suitable type of cloth, blend a colour scheme, dye the cloth and dry.
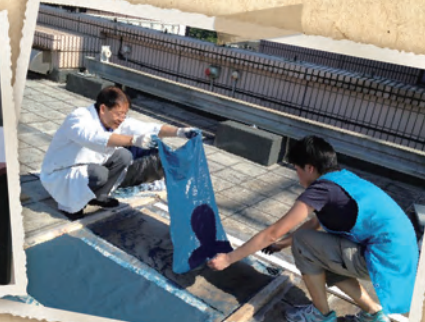
6. 在適當位置打孔，按序穿線，裝訂完成
   Resew the cover and in-pages into a book.

5. 裁齊書邊，平齊書口
   Fine cut and stack the document neatly.

4. 內頁：用扎花紙（一種宣紙）托裱背純，吸水壓平，上牆風乾
   In-pages: mount with Zha Hua, a kind of Chinese Xuan paper. Attached to a drying board for flattening and dry it on wall.

90後物理治療師助貧國建遊樂場

Young physiotherapist builds a playground in developing country

能夠用自己的專業知識行義，為他人帶來歡樂，是一件幸福的事。雅麗氏何妙齡那打素醫院二級物理治療師鍾晞浚，與多位志同道合的朋友，助菲律賓貧童興建一座富物理治療概念，而又好玩的遊樂場，讓孩子日日玩到不亦樂乎！

眼前這位90後，讀大學時已積極參與義務工作，並於2015年與11位同學組成義工團體Mission Until Dawn繼續行義，成員有工程師、律師，也有來自資訊科技界和社福界的專才。

晞浚說：「我們原本想興建一條兒童村，提供醫療和教育給孩子，但到尼泊爾、斯里蘭卡和柬埔寨考察後，發覺當地資源並非我們所想般貧乏。所以，最後決定在菲律賓一個較落後的城市—聖巴勃羅市，興建可供400多名孩子玩樂的遊樂場。」

他曾於專科門診處理兒童個案，所以知道哪些遊樂設施有助孩子身心發展，遂將物理治療方面的經驗和知識，融入玩樂設施的設計中。「遊樂場的設施有四大組件，包括鞦韆、搖搖車、鐵通橋和有滑梯及消防柱的『彩虹城堡』，全部融入物理治療概念

設計。如供攀爬的馬騮架，意念源自在門診工作時，發現孩子經常說累，站立亦乏力，甚至愛伏在桌上寫字，均因為孩子核心肌肉較弱所致。多玩馬騮架有助訓練臂力，他們一格一格攀過去，可增強其肌力及協調能力。」

晞浚先將想法告知工程師友人，再由對方繪製草圖，然後將圖則傳至當地合作機構跟進報價買料，再等他們飛抵當地動手開工。

2016年的聖誕節，他與本港義工飛抵當地，擔泥、打椿、燒焊，全部親力親為，「我們預算十日興建（遊樂場），但當中有一日半因颱風而須停工。最難忘的是在當地打椿，並非用機器，而是人手拿著一條空心鐵柱鋤地，是個特別的體驗。」他們返港後，當地義工繼續興建，直至2017年的暑假，團隊再次飛抵當地，完成最後的工序，興建餘下部分和上油。

他慨嘆，本港遊樂場一模一樣，欠缺挑戰和刺激，「最好玩的遊樂場應該是Free Play，即一件玩樂設施有多種玩法，若能將設計融入環境，那就最理想，希望香港不久也會出現一個這樣的遊樂場！」

二級物理治療師鍾晞浚利用自己的專業知識行義，為貧國兒童帶來歡樂。
Jack Chung, Physiotherapist II applies his expertise in charity to spread love and bring happiness to children in developing country.

It is a blessing if you can apply your expertise in charity to spread love and bring happiness to others. **Jack Chung**, Physiotherapist II at Alice Ho Miu Ling Nethersole Hospital has brought like-minded friends together to help underprivileged children build a playground full of fun and physiotherapy concepts in the Philippines to give them a place to enjoy themselves every day!

Jack has been active in volunteering since university, after which he and 11 other buddies set up a volunteering group called 'Mission Until Dawn' in 2015. The members of the group have different backgrounds, from engineering, law to information technology and social welfare.

Jack says, "At first, we planned to build a children's village to provide healthcare and education to the underprivileged kids. But after our visits to Nepal, Sri Lanka and Cambodia, we found that these countries are not as short of resources as we thought, so we finally decided to build a playground for 400 children in a city called San Pablo in the Philippines."

Given his experience in handling children cases in Specialist Outpatient Clinics before, Jack knows how to design playground facilities to assist both physical and mental development of children. "This playground is made up of four major facilities – a skygazer, a rocking car, an adventurous bridge and a rainbow castle with slides and fire pillars, all of which have been integrated with physiotherapy concepts. For example, the design of the climbing frame aims to enhance muscle strength and coordination to train the weak core muscles of children. I was inspired by my former children patients who often complained about feeling tired, having fatigue standing and those who loved to lie on a table when writing."

Jack shared his idea with his engineer friend who then made a sketch of the playground and sent to the local partner in the Philippines for follow-up work and the purchase of construction materials. After that, the team flew to San Pablo to kick off this meaningful project.

During Christmas in 2016, Jack and his team travelled to San Pablo to commence the construction of the playground. They did everything on their own, from putting mud, piling to welding. "We planned to spend 10 days on building the playground. Unfortunately, we had to stop for 1.5 days because of the typhoon. The most unforgettable experience was that we didn't pile up with a machine but had to hold a hollow steel pillar ourselves and did it manually." Local volunteers continued to follow up on the remaining tasks after they returned to Hong Kong. They flew to San Pablo again in last summer to finish the remaining work and painting.

Jack lamented the lack of innovation, challenges and excitement in the designs of playgrounds in Hong Kong, "I think the best playgrounds should be those created with the free play concept, which means each facility offers more than one possibility of playing. It would be ideal if a playground design blends with the neighbouring environment. I hope there will be playgrounds of this kind in Hong Kong soon!"

經過大家的努力，荒廢空地（左）變成令人流連忘返的遊樂場！
Volunteers turned a barren land (left) into a playground full of fun and joy!

每件設施由打椿、擔泥、燒焊、裝嵌到上油，都是由義工一手包辦。
Volunteers built the playground from putting mud, welding, fitting to painting.

遊樂場有咩咁好玩？
Most-loved facilities in the playground

彩虹城堡 Rainbow castle

以六角形平台為中心，每邊皆有不同的設施，如滑梯、馬騮架和消防柱，鍛鍊孩子的臂力、腹肌及背肌，增加全身肌力和協調能力，及消除心理障礙。

A hexagonal platform that has different facilities at each and every side, such as slides, stirrups and fire pillars to help forge children's arm, back and abdominal muscles, strengthen their coordination with various parts and overcome psychological disorders.

開心搖搖車
Happy rocking car

鍛鍊全身肌力和內耳平衡系統發展。

Strengthen muscles in the whole body and the development of inner ear balance system.

彩色鐵通橋 Adventurous Bridge

以不同顏色組成的鐵通鋪成橋，讓孩子思考不同的動作過橋，訓練雙腳的本體感應。

Made up of iron bars in different colours to encourage children to think about how to cross the bridge through different movements and train the sense of both feet.

車咑鞦韆 Skygazer

盪鞦韆有助刺激兒童大腦前庭系統，可訓練協調和平衡感。

Help stimulate the vestibular system in children's brains to train coordination and balance.

HA 八卦掌門人
HA chatterbox

小家電 進駐網購平台
Small electrical appliances now available at the online shop

最近，大家有冇發現合作社網上店 http://www.ha-co-op-shop.com.hk 入咗一啲好夠份量嘅新貨，估唔估到係咩？答案就係小家電。

小家電包括抽濕機、吸塵機、風扇、空氣清新機、多功能萬用鍋、電蒸籠、高速煲同麵包機等，聽聞部分售價仲平過其他協會，同事如果有興趣，就要預先俾錢確認訂單，用埋醫管局聯營卡，仲可以儲雙倍積分。除咗用聯營卡，仲可以揀用 ATM 入數，但記得保留入數紙作為記錄。所有訂單一經確認，不得取消或更改，雖然喺特別情況下，可以轉買其他相同或較高價值的電器，但就要俾 $200 行政費，所以確認訂單前要考慮清楚呀！

送貨方面，都係同以往一樣，可以選擇送去港九新界嘅醫院（包括北大嶼山醫院）或診所。貨品種類同牌子都會陸續增加，合作社稍後會去部分醫院巡迴擺檔宣傳，大家要留意啦！

Helen 仲知道有部分餐廳同酒樓嘅精選禮券只限 HA 有得買！咁多優惠，仲唔快啲登入醫管局內聯網員工福利網頁 http://staff-welfare. home/chi/publish_c1.html 或 HR App，了解最新筍嘢動向！

Do you know that the e-Co-Op shop http://www.ha-co-op-shop.com.hk has added some new items for sale? What are they? The answer is different types of electrical appliance, such as dehumidifiers, vacuum cleaners, fans, air purifiers, multi-purpose pots, electric steamers, high-speed pots and bread machines.

Helen has even heard that some of these items are sold at prices lower than that in other associations. If you are interested in making any orders, remember to use the HA Affinity Credit Card to earn double points. You can also choose to make a transfer at ATM and keep the receipt for record. All the orders cannot be cancelled or changed once they have been confirmed. Although in some special cases it might be possible for you to amend your order for products at the same or higher prices, an administrative fee of HK$200 will be charged. Think twice and make up your mind before placing any orders.

Staff members can choose a hospital (include North Lantau Hospital) or clinic as the delivery point. The Co-op shop will have more items from different brands in the future and organise roving counters to introduce this initiative at some hospitals very soon. Stay tuned!

Helen also knows that some restaurant and gift coupons are only available in HA! Check out the staff welfare homepage http://staff-welfare.home/eng/publish_c1.html or HR App to find out more about these exclusive privileges.

五大熱賣貨品
Five best-selling items

1. 透明軟包面紙
Facial tissue in soft transparent pack

2. 牙齒及牙肉護理牙膏
Toothpaste for protection of both teeth and gums

3. 美國天然手製芥末蜜糖味薯片
Natural hand-made potato chips with honey mustard flavour

4. 衛生護墊
Pantyliner

5. 漱口水
Mouthwash

高層新任命 「貼地」領團隊
New leaders adopt a down-to-earth leadership style

三位高層早前新上任，他們與《協力》的讀者分享了對新崗位的展望。

Three senior executives who have recently taken up office share with us their aspirations towards their new positions.

鍾健禮醫生
Dr Chung Kin-lai

獲委任為醫管局質素及安全總監的鍾健禮醫生，認為質素及安全管理中，「人」是最重要的元素，只要同事同心協力，建立安全的工作文化，便能提供優質醫療服務。他指出，「目前挑戰之一，是要在醫療服務需求不斷上升的情況下，維持服務質素，所以我會從不同渠道聆聽同事和公眾的意見，不論是客觀數據還是主觀看法，都會一一了解。推行政策時，亦盡量為前線同事保留彈性，以便他們工作。」

Among various factors in quality and safety management, Dr Chung Kin-lai, the new Director (Quality & Safety), regards 'people' as the most significant element. Provision of quality healthcare service counts on colleagues' concerted efforts in building up a safe working environment. "One of the major challenges we are facing now is to maintain the service quality amid the rising demand for medical services. I will open up channels of communication with staff and the public to gather their views, be it objective statistics or subjective opinions. Retaining flexibility for frontline staff in new policy implementation would facilitate their work."

林明醫生
Dr Lam Ming

新任青山醫院和小欖醫院行政總監的林明醫生說，醫院無小事，總有改善空間，冀持續推動有話直說的工作環境。他稱，「很高興早前有基層同事跟我反映院內除草時的噪音太大，擔心影響病人，建議改用音量較低的機器。溝通要有互動、有結論、有回應，同事才安心坦情上達，刺激管理團隊『腦筋急轉彎』，提升醫院服務質素。」

Taking up the post of Hospital Chief Executive of Castle Peak Hospital and Siu Lam Hospital, Dr Lam Ming believes that there is always room for improvement in hospital management and he wants to establish a more straightforward communication style. He says,"I am glad that some junior staff voiced that the noisy mowers may affect patients and suggested to replace them with a quieter one. Interaction, conclusions and responses are crucial elements in communication so that colleagues are willing to express their views to senior management and stimulate new thoughts on service improvement."

林美怡醫生
Dr Jenny Lam

出任九龍醫院和香港眼科醫院行政總監的林美怡醫生表示，她會帶領醫院團隊，配合聯網界線重組和發展，積極加強和理順醫院及社區各項服務，務求為病人提供更全面和適切的醫護服務。林醫生說：「我深信要有『開心病人』，先要有『開心同事和團隊』。我希望能做到『以人為本』和『情理兼備』，與同事攜手共建多關懷、多欣賞的工作環境，加強溝通和合作，提升團隊精神。」

Becoming the Hospital Chief Executive of Kowloon Hospital and Hong Kong Eye Hospital, Dr Lam hopes to lead the hospitals to work in line with the cluster in re-delineation and development. By reinforcing hospital and community services, comprehensive and appropriate care can be provided to patients. Dr Lam believes, "'Happy staff and teams' result in 'happy patients'. I hope to achieve people-centred care and manage the hospitals on the grounds of sensibility and reason. A working environment with more care and appreciation helps strengthen communication and cooperation, thus enhancing team spirit."

▲ 鍾健禮醫生喜歡在長假與家人旅遊。
Dr Chung Kin-lai likes to travel with family during long holidays.

▲ 青山醫院及小欖醫院的服務多涉及跨部門合作，林明醫生（第二排，左四穿黑衣）大讚同事凝聚力強，猶如經營「家族生意」。
The services of Castle Peak Hospital and Siu Lam Hospital involve inter-departmental collaborations. Dr Lam Ming (second row, fourth from left in dark jacket) admires staff's team spirit that they are like running a family business.

▲ 喜愛玻璃手工藝的林美怡醫生，閒時會燒製玻璃工藝品。
Keen on glass art, Dr Jenny Lam loves to create glass ornaments in her leisure time.

母乳同行
醫院同你拍住上！

Mothers' great companion on the journey of breastfeeding

母乳是媽媽送給寶寶的珍貴禮物。世界衛生組織建議，嬰兒出生首六個月應至吃母乳，並持續餵哺母乳至兩歲或以上。伊利沙伯醫院和瑪麗醫院已獲得愛嬰醫院認證，其他醫院亦進入不同的認證階段。為積極推廣訊息，各醫院想出不同點子，在孕婦懷孕期間至嬰兒出生後，提供多方支援，全力協助她們餵哺母乳，讓寶寶健康成長。

Breast milk is a precious gift from mothers to babies. As recommended by the World Health Organization, infants for the first six months of life should be exclusively breastfed and receive breastfeeding continuously for up to two years of age or beyond. Queen Elizabeth Hospital and Queen Mary Hospital (QMH) are accredited as baby-friendly hospitals and several other hospitals have demonstrated the commitment towards becoming a baby-friendly hospital. Hospitals undertake different initiatives to provide comprehensive support to mothers, and assist them in breastfeeding and keeping the newborns healthy.

瑪麗醫院義工製作得意冷帽給嬰兒保暖，以及防走光餵奶巾方便新手媽媽外出時餵哺母乳。
Volunteers of QMH handmade cute wool hats for babies to keep warm, and nursing covers for mothers to facilitate breastfeeding in public.

曾在聯合醫院生產的母親組成「聯合愛嬰義工」，接受培訓後，在醫院協助母乳餵哺顧問教授新手媽媽餵母乳。
'UCH breastfeeding volunteers', a group of mothers who have given birth in the United Christian Hospital, after receiving volunteer training, spare their time to assist lactation consultants in teaching new mothers breastfeeding.

準媽媽攤位取經

除了有關母乳餵哺的產前講座，婦產科專科門診設置攤位或諮詢小組，由母乳餵哺顧問即場介紹餵哺母乳的益處，利用道具教授準媽媽餵哺母乳的技巧，解答其疑問，以及講解醫院提供的支援。互動模式有助準媽媽理解和接收資訊，並建立雙方互信關係。

母嬰同房 隨時餵哺

母嬰同住一房，可因應寶寶的需要，隨時餵哺。產後病房有母乳餵哺顧問和助產士隨時支援，評估母親狀況，指導哺乳技巧，包括用手擠奶的方法及觀察嬰兒吸吮

的情況。有需要時，教導按摩肩膀和手部穴位，基督教聯合醫院的母乳餵哺顧問更會替母親按摩，以助母親上奶。

奉上香濃魚湯助上奶

瑪麗醫院的產後病房每天下午有母乳哺飼分享班，有助產士在場指導。參與的媽媽可互相學習和鼓勵，增加信心。醫院每天午餐提供香濃魚湯，為母親增加水分製造母乳，又會派發增加乳汁分泌的湯水單張。

熱線診所全支援

若母親出院後遇到棘手情況，如乳腺阻塞，令嬰兒未能吸吮母乳，怎麼辦？母親可致電母乳餵哺熱線，或到母乳餵哺顧問診所尋求協助。

Informative and interactive booth for expectant mothers

Apart from antenatal health talks on breastfeeding, booths or consultation groups are set up in Obstetrics & Gynaecology Clinics with lactation consultants introducing the benefits of breastfeeding and support provided by the hospital. They also teach visiting expectant mothers skills of breastfeeding using props and address their enquiries. Interactive and dynamic learning facilitates mothers-to-be to gain knowledge in breastfeeding and establish trust with the consultants.

Mothers and infants in the same room for flexible breastfeeding time

Mothers share the same room with their babies after delivery. They can breastfeed anytime with the support from lactation consultants and midwives, who assess the condition of mothers, give guidance in breastfeeding such as hand expressing and baby's suckling. They also teach shoulder and hand massage. Lactation consultants of United Christian Hospital even massage lactating mothers to improve the flow of milk.

助產士為產後媽媽按摩，有助她們放鬆心情。期間還可以抱著嬰兒，享受親子時光。
Massage by midwives is a form of relaxation for mothers, during which they can also enjoy some parental time with their newborn.

Hearty fish soup to boost milk supply

There are breastfeeding practising classes every afternoon in the postnatal ward of QMH. With the guidance from midwives and peer support from other breastfeeding mothers, participating mothers can gain confidence in breastfeeding. Moreover, the hospital provides nourishing fish soup for lunch to boost their milk supply, and recipes of soup that help increase milk production.

Consultative support from hotline and clinic

Discharged mothers who encounter challenges in breastfeeding, such as blocked ducts, can call breastfeeding hotline or visit breastfeeding clinic for consultation.

天使的呵護

瑪麗醫院九位媽媽級母乳餵哺顧問撰寫的《天使的呵護》，是一本資料詳盡的指南，分享餵哺母乳的技巧和心得。
Nine QMH lactation consultants, who are also mothers themselves, composed an informative guide for new mothers on lactation skills and experience.

母乳餵哺顧問教導新手媽媽哺乳技巧，解答他們的疑問。
Lactation consultants teach new mothers breastfeeding skills and reply their enquiries.

借奶泵、培訓大使　鼓勵同事餵母乳
Measures to facilitate breastfeeding in workplace

醫院除了向公眾推介母乳餵哺外，亦非常支持同事以母乳餵哺嬰兒。瑪麗醫院會向同事免費借出奶泵半年，方便他們上班期間泵奶冷藏。另外，又設立母乳餵哺親善大使，分散於27個部門，協助同事與上司商討工作時的泵奶安排，致力營造有助母乳的環境，就連醫院保安亦需學習解答公眾餵哺母乳的查詢。

Not only do hospitals promote breastfeeding to the public, they also support their staff in breastfeeding in workplace. Colleagues of QMH can borrow breast pumps for six months for free, so that they can pump and store breast milk at work. Breastfeeding Ambassadors from 27 departments of QMH assist in discussion between colleagues and their supervisors about the arrangement of pumping milk in workplace. Hospital security also learns to handle enquiries about breastfeeding in public.

瑪麗醫院來自不同部門的同事接受培訓，成為「母乳餵哺親善大使」，在工作間推廣母乳餵哺的文化。
Colleagues from different departments become Breastfeeding Ambassadors after training and promote the culture of breastfeeding in workplace.

善用大數據 規劃未來服務
Make the most out of big data in service planning

當各行各業都在談論大數據技術時，醫管局早於90年代開始，因應提供治療及臨床服務的運作需要，逐步建立臨床醫療管理系統，並開始分析系統的結構性臨床數據，協助制訂及規劃各項醫療服務。

例如：大約十年前，因應制訂「老人入院風險控制方案」，醫管局透過分析大量的臨床數據，建立一個以14個預測變數為基礎的模型，再配合資訊科技，成為一套自動化篩選工具系統，預測每天內科長者病人再次入院機會率（簡稱HARRPE Score）。現在「護訊鈴」和「離院長者綜合支援計劃」兩項服務，也是根據這工具篩選有較大可能再次入院的高危長者，加強對他們出院後的照顧，減少再次入院的風險。

然而，每當向第三方提供醫療數據時，必須在公開資訊和保護個人私隱兩方面取得平衡。醫管局參考了英國和澳洲等先進國家的做法，謹守五大安全（5S）原則：

安全數據： 減低從數據辨識個別人士身分的可能，避免提供直接或間接辨識病人身分的資料。

安全項目： 研究項目使用的數據須合法、合情，並符合研究倫理。

安全人員： 研究人員有足夠知識和技術，使用及儲存有關數據。

安全設施： 提取數據的設施和方法需確保數據安全。

安全成果： 研究和分析的結果不會披露個別病人身分。

徐麗卿續稱，醫管局一直透過一個恆常機制處理第三方（以大學為主）的申請，並根據5S原則為外間機構提供「去識別化」數據用作學術研究，以助本地醫學研究。此外，醫管局網站及政府的資料一線通（https://data.gov.hk）也備有大量統計數字，歡迎任何人士參閱及下載使用。

電話支援服務「護訊鈴」透過一套自動化篩選工具系統，辨識有較高風險再次入院的高危長者。
Community Health Call Centre service has leveraged on an automated tool to identify elderly patients with a high risk of re-admission to hospital.

近年，醫管局開始研究如何利用非結構性的臨床數據，如放射影像和臨床報告等加以分析。統計及人力規劃總行政經理**徐麗卿**稱，「如何利用這些非結構性數據，我們尚在起步階段，現正與本地大學進行一項有關急性中風疾病的研究。第一階段會由我們提供相關個案不同類型的數據，移除能辨識個人身分的資料後，交由大學腦外科專家和統計專家，分析腦掃描影像及其他臨床數據，例如年齡、病歷、主要臨床表徵等，嘗試建構一個自動化實時預測風險的模型。第二階段會將該模型套用至更多個案，測試應用於臨床系統及服務層面的可行性。」

年底擬推「大數據平台」不複製不帶走數據

總辦事處資訊科技及醫療信息主管**張毅翔**醫生稱，為回應2017年《施政報告》，醫管局已成立專責小組跟進成立大數據分析平台，在保障病人私隱的前提下，進一步開放予外間機構申請分析醫管局的數據，以助制訂醫療政策和完善臨床及醫療服務。初步構思是在醫管局的特定研究室內，提供電腦連接數據資料庫系統。使用者只可於研究室內，即時分析數據，不得複製或帶走數據。首階段會開放予學術界，其後才決定是否考慮開放予商界或其他人士。具體細節仍在磋商中，預計今年年底推出。

When big data technology being discussed across sectors, since early 1990s Hospital Authority (HA) has indeed established by phases a Clinical Management System to cope with clinical and operational needs, and has started to analyse structured clinical data in the System to facilitate planning and formulation of various healthcare services.

For example, around 10 years ago, in response to the need to formulate the Hospital Admission Risk Reduction Program for Elderly (HARRPE), HA has already analysed a huge volume of clinical data and developed a risk prediction model according to 14 predictor variables. Supported by information technology, this tool has been automated to calculate the predicted chance of hospital re-admission (known as HARRPE score) for elderly patients from medical wards every day. Currently, Community Health Call Centre and Integrated Discharge Support Programme for Elderly Patients are making use of this tool to screen elderly with a higher risk of re-admission, and enhance their post-discharge support in order to reduce their chance of re-admission.

Recently, HA has started to explore the use of unstructured clinical data such as radiological images and clinical reports for data analytics. **Eva Tsui**, Chief Manager (Statistics & Workforce Planning) says, "We are only at a beginning stage to explore how to make use of these unstructured clinical data. We are now working with a local university to undertake a research study related to acute stroke. In the first phase, we provide various data of relevant cases, after removing individually identifiable information, to the neurosurgeons and statistical experts in the university, who will analyse the brain images and other clinical data, such as age, medical history and major clinical symptoms, in an attempt to develop an automated real-time risk prediction model. In the second phase, the model will be applied to more cases to test its feasibility of applying to clinical systems and services."

However, we have to strike a balance between data disclosure and personal data privacy protection when providing clinical data to third parties. HA has made reference to the practices in some developed countries such as the United Kingdom and Australia, and all along adhered to the 'Five Safes' (5S) principle.

資訊科技及醫療信息主管張毅翔醫生（左）和統計及人力規劃總行政經理徐麗卿均認為，人才短缺是最大挑戰。這些人才需理解和運用最先進的資訊科技及分析技術，以及認識醫療系統及服務，才能與臨床醫療團隊產生協同效應。
Dr Cheung Ngai-tseung, Head of Information Technology and Health Informatics (left) and Eva Tsui, Chief Manager (Statistics & Workforce Planning) both opine that the shortage of talent is the biggest challenge. To synergise with the clinical teams, HA needs talent who are familiar with information technology and analytics techniques, and understand the healthcare system.

Safe Data: Reduce the possibility of re-identification of individuals from the data. Provision of data or information leading to patient re-identification by direct or indirect means should be avoided.

Safe Projects: Use of data in the projects is lawful and with moral and ethical considerations.

Safe People: Researchers possess adequate knowledge and skills to use and store data appropriately.

Safe Settings: The facilities and methods for data access ensure adequate data protection.

Safe Outputs: Research or analysis results will not disclose the identity of individual patients.

Eva adds that all along HA has an established mechanism to process and vet external data requests (mostly from universities). Based on the 5S principle, 'de-identified' data would be provided to external parties for academic research, with a view to facilitating local healthcare research. In addition, a wide range of statistics is also available for public use and can be downloaded from the HA corporate website and government's public sector information portal (https://data.gov.hk/en).

大數據特徵
Aspects of big data

種類 Variety
除傳統的結構性數據外（如出生日期、病歷、脈搏和心跳次數等），還包括非結構性數據（如圖片、影片、音樂、電郵和社交媒體資訊等）
Structured data (such as date of birth, medical history, pulse and heart rate) and unstructured data (such as images, videos, music, email and information from social media)

準確性 Veracity
數據的準確度和可信度，即數據的質量
Data accuracy and trustworthiness; in other words, data quality

價值 Value
挖掘和建構數據中具啟發的信息、知識及價值
Generate information, knowledge and insights from the data

體量 Volume
Terabyte / Petabyte
以海量形容，達到兆／千兆位元組或以上
Massive in the magnitude of terabyte / petabyte or above

速度 Velocity
連續且快速的信息傳輸，實時／近乎實時的數據分析
Streaming data flow, real-time / near-real-time data analytics

Big data analytics platform to be launched by year-end – no copy and take away of data

Dr **Cheung Ngai-tseung**, Head of Information Technology and Health Informatics, points out that in response to *Policy Address 2017*, HA has set up a committee to follow up on the development of HA Big Data Analytics Platform for opening up to application from more external parties for using HA data for analytics or research while ensuring patient privacy protection, with a view to facilitating healthcare policies formulation and clinical services enhancement. The initial plan is to provide workstations connecting to information and database systems in a designated research lab where users can only analyse but cannot copy or take away any data. In the first phase, applications will be open to the academia only, and those from commercial and other sectors will be considered subsequently. Further details are still under discussion and the lab is expected to be launched by the end of this year.

善用數據作出精準及有啟發性的分析，有助制訂及規劃更好的醫療服務，而大前提是確保數據安全及保障個人私隱。
Good use of data for accurate and insightful analytics helps formulate and better plan for healthcare services. Nevertheless, the key consideration is to ensure data security and personal privacy protection.

大埔醫院精神復康中心
多元活動助病患復元
TPH psychiatric rehabilitation centre develops multi-disciplinary training for patients' recovery

大埔醫院早前獲香港賽馬會慈善信託基金捐款3,990萬元興建賽馬會綜合精神復康中心，為精神科住院病人提供一個更佳的治療環境。中心去年4月投入服務，截至去年底已服務8,500人次。

有別於以往因空間所限而只能在病房使用器械訓練，物理治療師現可在中心內開設瑜珈班和高強度間歇訓練等，透過運動改善患者抑鬱情緒、提高其專注力及記憶力，協助他們養成做運動的習慣和積極的生活態度。

團隊亦會在中心內舉辦以復元為核心理念的講座，例如認知障礙照顧者支援小組、化妝班、朋輩支援班等，讓精神病患者及家屬找到目標和方向，建立正面自我形象及重建有意義生活。

With the generous donation of 39.9 million dollars by The Hong Kong Jockey Club Charities Trust, Tai Po Hospital has built and equipped the Tai Po Hospital Jockey Club Integrated Psychiatric Rehabilitation Centre. Since the service commencement in April last year, the Centre provides a better therapeutic environment for psychiatric in-patients to undergo well-suited and quality rehabilitation training. As of the end of last year, the patient attendance to the Centre exceeded 8,500.

Unlike the past practice that patients underwent gym training in the ward, physiotherapists can now open training classes such as yoga, high intensity interval training classes in the Centre to help patients ease their symptoms of depression, improve their concentration and memory through exercises, facilitate patients to begin their exercise routine, and develop self-motivated and healthy life attitude.

▼ 物理治療師、職業治療師及精神科護士在中心內開設運動及興趣班，為病人提供多元的復康治療。
Physiotherapists, occupational therapists and psychiatric nurses organise a wide variety of sports training and interest classes, providing rehabilitative treatment based on a recovery model.

The team implements a recovery-based approach, organising educational talks such as dementia carer support group, make-up class and peer support group. These help patients and their relatives to find goals and direction, develop a positive self-image and rebuild a meaningful life.

防跌有法　長者踏出「平穩每一步」
Fall prevention programme helps elders stay safe and healthy

長者跌倒或會導致骨折和創傷，後果嚴重。為加強長者在這方面的認識，明愛醫院早前與區內長者健康中心合辦『「平穩每一步」預防長者跌倒社區計劃』，活動共有2,200人次參與。

一連串的計劃內容包括由明愛醫院協助訓練了150名「防跌大使」義工，由他們協助檢查長者的助行器具，更換適當的助行器配件；為長者評估跌倒風險；於社區防跌普查日，探訪獨居或行動不便的長者，以識別高危人士；又安排長者參加防跌健康講座；和參與由物理治療師和職業治療師舉辦的復康小組，訓練長者肌力和重心轉移等；以及舉辦防跌運動推廣日，宣揚防跌訊息，冀能減少因骨折而入院的人數。

Falls in elders may lead to bone fracture and severe injuries. In order to raise their awareness of fall prevention, Caritas Medical Centre (CMC) co-organised 'The Community Fall Prevention Programme for Elderly' with elderly health centres in the district. The total participation reached 2,200 person-times.

CMC provided training to 150 ambassador volunteers who assisted in inspecting walking aids and replacing worn out parts for elders; carried out community-based fall assessment for potential cases; and visited elderly residents, who are living alone or with limited mobility, to identify at-risk individuals. Senior citizens also attended talks on fall prevention and health education. Muscle strength training and balancing gait exercises were organised for seniors by physiotherapists and occupational therapists. Fall Prevention Promotion Day was also held to promulgate tips on fall prevention with a view to reducing the number of in-patients due to fractures.

▲ 體適能導師帶領長者學習簡易防跌運動，鼓勵長者定期練習，預防跌倒。
Fitness mentors taught elders simple fall prevention exercises and encourage them to practice regularly.

▲ 「防跌大使」在社區防跌普查日到住戶探訪，識別容易跌倒的高危長者。
Ambassador volunteers paid home visits to conduct community fall prevention census and identify high-risk population.

我們都在這裡！

又是一個忙碌的早上。面對紓緩治療病房內20多名病人，複雜的病情、徵狀、情緒和家屬的需要，醫護都戰戰兢兢，忙得團團轉。

40來歲的阿玲入院不久，癌細胞已經擴散至全身。她身體很虛弱，疼痛、氣喘、水腫都很嚴重。她有一個美滿的家庭，非常不捨疼錫自己的丈夫，以及一對年輕的子女。面對頑疾、痛苦、離世，她心中充滿恐懼。

忽然，走廊遠處傳來尖叫聲。

護士匆匆跑來，說：「阿玲突然痛得很厲害，大哭大叫。」我們一進去，看見阿玲在床上掙扎，大叫救命。按臨床評估，是腫瘤出現了不能挽回的緊急情況。在床邊侍候的女兒想前去安撫，卻被恐慌和失控的母親一手推開，不知所措，泣不成聲。

「止痛針，快！」熟練的護士立刻轉身出去，預備針藥。

房間餘下三個人：痛苦叫嚷的阿玲，無助的女兒，還有我。空氣好像凝住。

作為醫生，下完治療指示，然後只能站著，和他們一同乾等、乾急。當下的氛圍，那份挫敗的無力感，令人很想逃出去。然而當死神、傷痛和恐懼排山倒海而來，醫學藥物不能控制時，難道我們就只能逃出去嗎？

定過神來，行近床邊，蹲在阿玲的身旁，輕按著她的手和肩膀。「陳醫生在這裡，知道你很辛苦。不要害怕，我們在幫助你⋯⋯」

「救命呀！怎麼止痛針還沒有來！」

「不要害怕，我們都在這裡。藥物很快就有了⋯⋯」

「嗚⋯⋯我是不是快要死了⋯⋯嗚⋯⋯」

「我們都在這裡，我們都在這裡，我們都在這裡⋯⋯」

女兒哭著問：「醫生，怎麼辦？我可以怎樣？」

「你是女兒。你也過來媽媽這裡⋯⋯」

兩人一左一右陪著阿玲，手繼續輕按著，心裡卻和病人一樣焦急。望着那緊皺的眉，豆大般的汗珠，兩頰的淚水，拿針藥雖然才幾分鐘，感覺卻好像經過了許多年。

「打了針，怎麼還是一樣的痛？」

「同事剛剛給你打了針，藥效很快會到的。醫生和家人都在這裡，不要害怕⋯⋯」

再過了好些時間，阿玲的痛楚得到紓緩，平靜下來，不知不覺小睡了一下。在床邊另一端的女兒，情緒也平伏下來。此時，其他家人也陸續趕到。

一輪解說病情和安撫家人過後，回頭已是半晝，卻還有門診和病房其他病人在等候診視。餘下又是披星戴月的一天。至於阿玲，半日後亦已經離開了。

幾星期後，病房收到阿玲女兒的信和致謝卡：「謝謝你們在媽媽臨終期間的細心治療和親自陪伴，讓我們一家在無助、傷痛之中，感到絲絲溫暖和安全感。」

陪伴，與受苦者同在，既要面對內心的張力，也要應付其它繁瑣的醫療工作。克服這些困難，除了需要加倍的力量和勇氣，還要有分配時間的智慧。

不過，醫護者都是人，對一直相處的病患，怎能沒有惻隱之心？人與人在身、心、靈層面的接觸和陪伴，仍然是最珍貴、最有力量的良方妙藥，是科學和醫護技術不能取代的。

「我們都在這裡⋯⋯」

是的。我們都願意在這裡。

陳頌安
靈實醫院
內科紓緩治療服務駐院專科醫生

▲ 在靈實醫院的盼望病房，醫護人員每天盡心盡力關顧晚期病人及其家人，讓病人安適、平靜、有尊嚴地走過人生最後一段旅程。

1分鐘自由講
Minute Talk

威院新內鏡中心　增三間治療室
Room expansion in PWH new endoscopy centre

威爾斯親王醫院新設的內鏡中心今年2月初投入服務，內鏡治療室由五間增至八間，並將陸續投入服務。每間治療室外設獨立顯示屏，方便醫護人員在職員通道監察病人進行內鏡檢查時的生命表徵；中心清潔專區備有高規格消毒機器，加強感染控制；而兩個復甦區域，方便安排住院病人及門診病人休息及等候出院，減低傳染風險。

The newly established endoscopy centre commenced service at Prince of Wales Hospital in February this year. The centre is more spacious than before and the number of endoscopy room will be gradually increased from five to eight. With the LCD display installed outside each endoscopy room, healthcare staff can monitor the vital signs of patients during endoscopy procedures. For the sake of infection control and patient safety, the centre has a designated zone to sterilise the surgical instruments. Moreover, two recovery zones are set up for inpatients and outpatients to recover and wait for discharge after procedures.

▲ 復甦區域設有護士當值站，照顧病人所需。
Nurse stations are located in two recovery zones to take care of the needs of patients.

辦公室拉筋 趕走肩頸背痛
Simple office stretches to ease pains

很多同事經常在辦公室工作，坐得太久會腰酸背痛，肩頸肌肉緊繃。仁濟醫院一級物理治療師**鄧穎珊**教大家四個辦公室拉筋運動，齊齊舒緩疲勞，趕走痛症。

Sitting in the office for a long period of time may lead to muscle stiffness and pains. **Tracy Tang**, Physiotherapist I of Yan Chai Hospital, teaches four stretching exercises at the office to boost your energy, prevent and ease muscle problems.
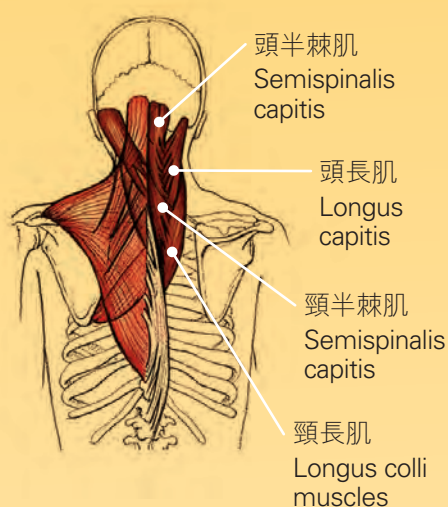

頸椎痛
Neck pain

俯頸拉筋操：坐下，雙手交叉放於腿間，頭部向兩側垂下，直至頸後和頸側有拉緊感覺。定30秒，慢慢抬頭放鬆。

Neck stretching exercise:
Sit down with crossed arms between legs. Tilt the head down and sideways until a stretch is felt at the neck. Hold for 30 seconds and relax.

拉到的肌肉群
Targeted muscles

頭半棘肌
Semispinalis capitis

頭長肌
Longus capitis

頸半棘肌
Semispinalis capitis

頸長肌
Longus colli muscles

頸部和上背肌肉緊繃及疼痛
Neck and upper back pain and tightness

上背拉筋操：坐下，雙臂交疊，伸直雙手向前盡量伸展，頭垂下，直至上背和頸後側有拉緊感覺。定30秒，慢慢抬頭放鬆。

Upper back stretching exercise:
Sit down. Cross arm. Stretch elbow and reach forward until a stretch is felt at the upper back and neck. Hold for 30 seconds and relax.

拉到的肌肉群
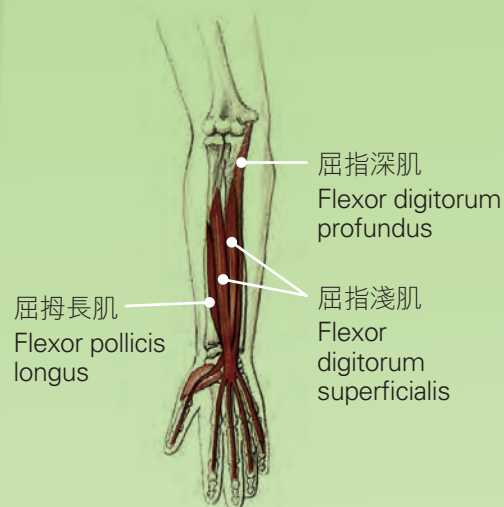**Targeted muscles**

斜方肌
Trapezius muscles

菱形肌
Rhomboid muscles
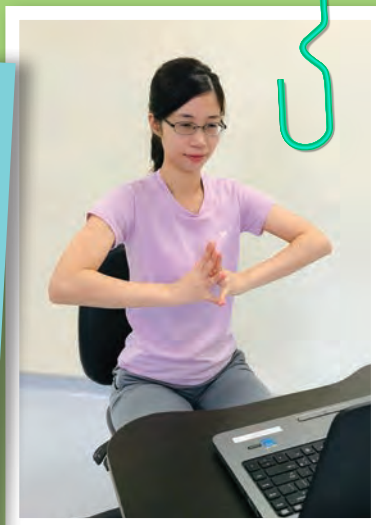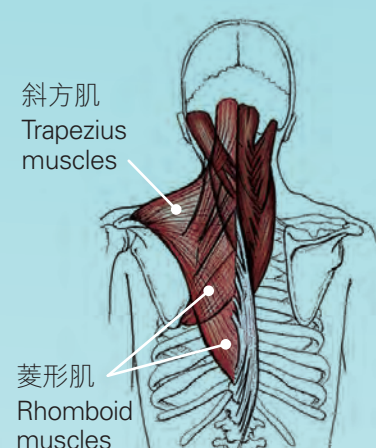
網球肘，手腕筋腱炎，腕管綜合症
Tennis elbow, carpel tunnel syndrome and forearm muscles tightness

手指拉筋操：十指指尖對指尖，手肘向外，兩手互壓直至手指肌肉有拉緊感覺。定30秒，慢慢放鬆。

Fingers stretching exercise:
Point 10 fingers at each other. Elbow out. Press two hands together until a stretch of fingers is felt. Hold for 30 seconds and then relax.

拉到的肌肉群 Targeted muscles

屈指深肌
Flexor digitorum profundus

屈指淺肌
Flexor digitorum superficialis

屈拇長肌
Flexor pollicis longus

膝關節痛，大腿和脛部肌肉緊張，腳踝扭傷
Knee pain, thigh and anterior shin tightness, and sprain ankle

站姿脛部大腿拉筋操：站立，雙手扶枱，右腳腳面放椅上，左膝屈曲。左膝和右腳踝向下壓，直至右腳脛部及大腿前方有拉扯感覺。定30秒，慢慢放鬆。轉腳重覆動作。

Standing thigh stretching exercise:
Stand and support hands on a table. Place right foot on a chair and stand on left leg with knee slightly bent. Press right foot on the chair and squat down until a stretch is felt at the right thigh and anterior shin. Hold for 30 seconds and relax. Switch to another leg and repeat.

拉到的肌肉群 Targeted muscles

股四頭肌
Quadriceps

脛前肌
Tibialis anterior