6 Other Supportive Work Reform Programmes

Modernised workforce   Better care and communication
Improved continuity of care
Strengthened core competencies of health carers

EXECUTIVE BRIEF

601   *Apart from the key pilot work reform strategies, HA also set in a number of supportive work reform programmes to improve the quality of care and patient safety. In the first place, the senior nurse coverage in an acute secondary hospital was enhanced during out-of-hours. A team of trained and experienced nurses was set up to provide advanced clinical nursing advice and support, undertake protocol-based patient assessment and clinical interventions, and coordinate response to clinical emergencies during out-of-hours. On the other hand, a common ward language was introduced to all hospital clusters, involving use of an integrated observation chart with Modified Early Warning Score (MEWS) and a unified approach of communication using SBAR (i.e. situation, background, assessment and recommendation for patient management) to facilitate early detection of potentially critical conditions for timely specialist intervention.*

602   *Besides, an electronic handover system was piloted in three acute public hospitals in order to facilitate structured and comprehensive multi-disciplinary handover of critically ill and unstable patients, ensure continuity and safety of patient care and improve out-of-hour clinical supervision. Finally, HA had strengthened the core competency training of health carers. Cluster-based training courses were organised in collaboration with the HKAM specialty colleges for 91 basic trainees and 14 nurses in the surgical stream specialties in the past two years to ensure patient safety and control risks during out-of-hours. In addition, three commissioned clinical skills enhancement programmes were organised in 2008/09 to equip 287 experienced nurses with enhanced clinical skills and professional competency in acute care management and clinical supervision. 95 care technicians were also trained to take up basic care duties from the healthcare professionals.*

603   On the whole, clinical risks due to slimmer manpower at night were reduced and the quality of patient monitoring and assessment was improved, as were the communication and continuity of care in a multi-disciplinary setting for safer and more effective patient management. The workload of on-site on-call doctors was lessened with enhanced core competency of the healthcare professionals in acute care management; and no critical incidents had occurred in relation to the supportive work reform programmes in the pilot phase. Although there were staff concerns and varied legal views about the extended roles of nurses, and local data were yet to be gathered to support wider launch of the track-and-trigger mechanism using the integrated patient observation chart, the supportive work reform programmes were in general well received by the clinical departments and frontline healthcare professionals. Moreover, the great majority of survey respondents found the electronic handover system easily accessible, user-friendly and able to streamline the care process; and most had opted to build this electronic handover function in HA's Clinical Management System (Version III) in future. On the other hand, the Hong Kong Academy of Medicine ("HKAM") reiterated its stand that limiting doctors' average weekly work hours to 65 should not have major impact on their postgraduate medical training but a further reduction in the work hour target would in principle have long-term impacts. It would take a more comprehensive approach to enhance the quality of doctors' training, modernise the Fellowship training system and closely monitor the process with the support of HA.

604   HA was recommended to improve the professional and core competency of all its nurses and enhance the senior nurse coverage in all acute hospitals at night. The roles of allied health professionals could also be extended where appropriate. Clearance should be sought with relevant professional bodies on the core competency of health carers in different disciplines; and HA was recommended to develop a framework to enhance their scope of professional duties in delivering quality healthcare services. On the other hand, HA was recommended to extend the common ward language to all public hospitals as appropriate and set up a sound track-and-trigger system, supplemented by intra- and inter-departmental clinical management protocols and electronic patient pathways, to ensure timely specialist intervention for deteriorating and potentially critical patients. Besides, HA was recommended to integrate the electronic handover platform into the upcoming Clinical Management System (Version III) and extend its application to different clinical specialties and hospital clusters in order to facilitate structured and comprehensive handover and ensure the continuity and safety of patient care.

Finally, HA should continue to facilitate doctors' training in order to strengthen their core competency skill set in acute care management under a multi-disciplinary setting. HA was also recommended to work closely with the Hong Kong Academy of Medicine in ensuring the quality of doctors' postgraduate medical education and evaluating the work reform impacts on doctors' training in different specialties at appropriate time points.

PILOT WORK REFORM PROGRAMMES

A.   Enhancing Senior Nurse Coverage during Out-of-hours in an Acute Secondary Hospital

605   In pursuit of the right skills for the right care and to meet the evolving healthcare needs of the society, HA made great efforts to modernise the roles of its staff and enhance their competency in delivering quality patient services in public hospitals. Overseas experience revealed that given proper training, clear protocols, multi-disciplinary collaboration, adequate system support and management countenance, experienced nurses could coordinate call teams well, provide satisfactory out-of-hour support for doctors in managing patients with deteriorating conditions and gain the trust of patients. Team work could also be improved, thereby reducing duplication of work, improving continuity of patient care, reducing staff stress and optimising the number of on-site on-call doctors at night.
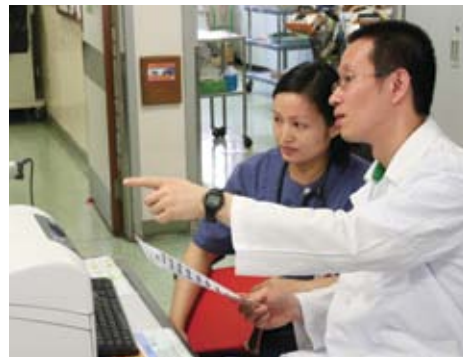
606   To dovetail with the pilot work reform strategies for relieving the heavy workload and improving the working conditions of frontline doctors, HA embarked on a supportive work reform programme of enhancing the senior nurse coverage during out-of-hours in an acute secondary hospital. For this purpose, HA sent a delegate of four, comprising a doctor and three nurses, to study the Clinical Site Manager model and examine the enhanced nursing roles in the United Kingdom[22] in January 2008. Three commissioned clinical skill enhancement programmes were conducted[23] in 2008/09 for 287 local experienced nurses from all the hospital clusters, covering scopes of clinical leadership, change management, clinical decision making, health assessment and clinical skill enhancement. Local training resource was also developed through a bespoke train-the-trainer workshop in order to facilitate both clinical course design and delivery in the local setting.

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[22]   Four hospitals in the United Kingdom were visited, including the Homerton University Hospital, Guys & St. Thomas Hospital, Royal Liverpool & Boardgreen University Hospital as well as the Faculty of Health, Edge Hill University.

[23]   Three batches of clinical skill enhancement programmes and a train-the-trainer workshop were conducted by the Edge Hill University Hospital, United Kingdom, from June 2008 to February 2009.

607 In March 2009, the Clinical Management Unit ("CMU"), led by a clinician and comprising 8 well-trained Advanced Practice Nurse ("APN"), was formed in Yan Chai Hospital to pilot run the localised model of enhanced senior nurse coverage during out-of-hours. Evolving through various familiarization and pilot phases, the designated team of APN(CMU) took on the enhanced roles of providing advanced clinical nursing support and advice to clinical areas, undertaking advanced patient assessment and clinical interventions, participating in multi-professional handover and coordinating emergency response to manage clinical emergencies from 16:00 hrs to 08:00 hrs the following day. All inpatient wards[24] were covered and 34 clinical management protocols had been developed to guide the daily operation. Commencing late June 2009, ward nurses could call the on-site APN(CMU) direct for necessary support under specific circumstances, instead of sending parallel calls to the on-site on-call doctors as well so as to avoid duplication of work. Monthly clinical audits were also conducted to ensure that proper care was delivered and the operation was fine-tuned in a multi-disciplinary setting.

608 Eight months after full launch of the pilot programme, the Steering Committee was pleased to note that patient safety was maintained without any critical incidents; and most clinical and clinical support departments in the pilot hospital were supportive to the enhanced roles taken up by the trained experienced nurses. There were instances where deteriorating patients received prompt and proper management by APN(CMU) according to pre-set protocols; and timely specialist interventions were triggered for enhanced patient safety. The Steering Committee considered that treating patients according to agreed clinical protocols would guide clinicians' decisions and ensure that the right treatment would be provided, hence optimising patient care. The pilot programme of enhancing senior nurse coverage had facilitated patient prioritisation, lessened the workload of on-site on-call doctors and reduced the clinical risks associated with slimmer medical workforce and staff fatigue during out-of-hours. Besides, multi-disciplinary teamwork was improved and response to clinical emergencies, hence patient safety, was bettered under the protocol-based care model. The career progression of trained experienced nurses was also improved through creation of senior nursing positions.

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[24] With the exception of newly admitted patients in acute wards and those in Accident & Emergency Department, Intensive Care Unit and Paediatric wards of the pilot hospital.

609   In a user survey conducted in the pilot hospital in August 2009[25] (Figure 6.1 below), the majority of doctors, nurses and patients had shown confidence and were satisfied with the overall effectiveness, timeliness of patient assessment as well as quality of APN(CMU)'s service. A snapshot of CMU's activities in October 2009 showed that APN(CMU) had shared over 1,000 doctors' clinical tasks in the month, including 70% of tasks related to management of abnormal investigation results (e.g. hypokalameia, hypoglycaemia), resuscitation, major patient complaints (e.g. chest pain, shortness of breath), vital parameter changes (e.g. hypotension, desaturation) and minor patient complaints, which were handled in accordance with CMU's clinical management protocols. The remaining 30% of clinical tasks were non-protocol based and related to patient review, nursing advice, drug prescriptions and interviews with patients' relatives. On the whole, CMU had provided important support for the frontline colleagues in the pilot hospital by handling some minor clinical problems and improving the on-call quality of frontline doctors at night[26]. These had rightly hit the programme targets to ease on-call doctors' workload, improve the quality of care and patient safety, support junior on-site on-call doctors and ward nurses, and equip experienced nurses with enhanced clinical skills and professional competency in clinical management and supervision.

Fig. 6.1 – User Survey on Enhanced Roles Senior Nurses

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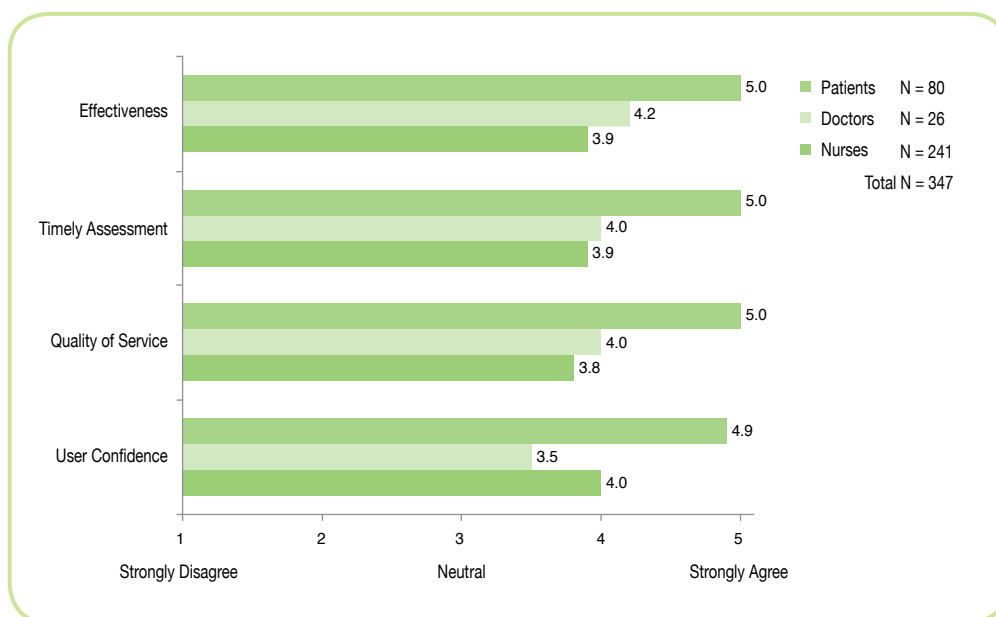
[25]   The interim user survey had a sample size of 347 healthcare professionals, including 80 patients, 26 doctors and 241 nurses working in the pilot hospital.

[26]   Extracted from the Annual Report of Yan Chai Hospital Doctor's Association, 2008/09.

Issues of Concern

A. Accountability and Responsibility for Enhanced Nursing Roles

610   A number of issues were encountered in the course of piloting the enhanced roles of nurses and strengthening the senior nurse coverage in the pilot hospital during out-of-hours. In the first place, despite the nursing management's strong support for Doctor Work Reform and its commitment to modernise the roles of nurses under a stringent workforce[27], certain frontline staff, including both doctors and nurses, was concerned about the nurses' accountability and responsibility for taking up the enhanced roles in caring for acute inpatients. Their concern stemmed from the deep-seated perception that doctors, instead of nurses, should take the leadership role in clinical practice. More importantly, the enhanced roles were considered to have outrun the core competency of nurses and their professional boundary of nursing care. In particular, ordering urgent blood tests and plain x-rays as well as prescribing simple drugs on behalf of clinicians, albeit protocol-based, were duties that should not be delegated or performed in the absence of direct supervision or referral by a registered medical practitioner under the prevailing professional regulations and legislations.

611   The Steering Committee recognised the concerns of the frontline staff and considered that the crux of matter lay in whether the power to refer for the said services was personal to the registered medical practitioners or could be delegated to the trained non-medical professionals acting on pre-defined clinical management protocols. There were varied legal views among the local and overseas healthcare sectors about the delegation authorities for different care procedures. However, in certain National Health Service Trusts in the United Kingdom, referral protocols were already in place to allow nurse practitioners, for instance, to order x-ray examinations within their extended scope of practice[28]; and Clinical Site Managers at the studied sites were actually performing the extended roles of ordering blood tests and x-ray examinations as well as prescribing drugs according to pre-set clinical management protocols with few safety issues. Non-medical allied health professionals, like pharmacists and other therapists, were also taking on a wider spectrum of care duties. Such delegation was founded on adequate training,

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27   The nursing management, in the corporate-wide consultation in May 2007, expressed strong commitment in support of Doctor Work Reform and articulated the need for enhancing the roles of nursing practitioners. Stringency of the nursing workforce should not be seen as a blockage to this development.

28   Examples of x-ray referral protocols in NHS trusts giving guidance to non-medical practitioners to order x-ray within their expanded scope of practice could be found in http://www.nursepractitioner.org.uk/Documents/XRay%20Documents/ MBHT%20xray%20ptocol.doc and http://www.mrccs.nhs.uk/upload_documents/docs/200892415445_c20_xray_referral_ policy.pdf.

proper clinical supervision, protocol-based operation and ordinance support; and enhancing the roles of non-medical staff could alleviate doctors' workload and free them up for pressurised clinical services. Staff morale could also be improved through higher professional recognition and more career opportunities[29].

612   This pilot initiative entailed a culture of both teamwork and shared responsibilities, where doctors, nurses and allied health professionals would accommodate modernised roles and new ways of operation. In view that enhancing the roles of non-medical health carers was a global trend and would modernise their professions in delivering quality healthcare services, the Steering Committee fully supported this direction of work reform on the basis of safe practice, wide professional founding and sound system support. In order to meet the evolving healthcare needs of the society, HA was recommended to review with relevant professional bodies the core competency of health carers and develop a framework to facilitate enhancing their scope of professional duties in care delivery. Moreover, advanced clinical skill enhancement training should be provided for experienced nurses to take up the enhanced roles, alongside development of clinical management protocols and regular safety audits, so that proper care could be delivered by competent personnel and patient safety be protected under this new work reform initiative. Meanwhile, multi-disciplinary collaboration and other supportive facilities, like integrated observation charting using MEWS[30], unified communication tools and a structured and comprehensive handover system built on an electronic platform, would definitely facilitate the caring process and help identify patients in unstable or critically ill conditions for timely intervention. Finally, continuous communication and stakeholder engagement were indispensable to resolve any knotty issues throughout the development and implementation stages of this work reform initiative.

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[29]   Views of both overseas experts of Steering Committee on Doctor Work Hours, Hospital Authority.

[30]   MEWS : Modified Early Warning Score – a patient assessment scoring system adopted from the United Kingdom. Please refer to the section "Introducing Common Ward Language to All of HA's Hospital Clusters" for details.

B. Designated Team Vs Skill Enhancement for All Nurses

613   On the other hand, the hospital and nursing management held different views about the mode of enhancing senior nurse coverage during out-of-hours. Some favoured setting up designated clinical management teams of doctors and experienced nurses with advanced skills, delineated roles and competence in acute care management, like that in the pilot hospital, while others preferred uplifting the core competency of all experienced nurses to provide protocol-based care for acute inpatients during out-of-hours. Their arguments ran around the rising nursing shortage in recent years[31] and the need for modernising the nursing profession as to provide quality healthcare services in an evolving environment.

614   The Steering Committee found both options viable on grounds of better teamwork and quality patient care. HA might look to the manpower supply and the peculiar settings in different hospitals and apply appropriate models of enhanced senior nurse coverage during out-of-hours. In general, with the experience gathered from the pilot programme, acute secondary hospitals that managed a relatively stable level of night activities would benefit from a designated clinical management team, whereas in acute tertiary hospitals, the alternative mode of enhancing all experienced nurses' core competency could be more cost-effective in the light of their larger patient volume and more complex patient conditions. In any case, staff training, multi-disciplinary collaboration and management support were crucial to the success of the initiative. HA was recommended to make use of its available training resource to build the critical mass of experienced nurses with advanced clinical skills and professional competency; and foster teamwork and system support as aforementioned, so that patient care could be improved, doctors' workload relieved and the nursing profession brought to a new horizon that was in line with international good practice. Clinical units like the CMU in Yan Chai Hospital might serve as a good training ground; and rotation could be arranged for all experienced nurses to take up the enhanced roles in acute care management.

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[31]   The annual turnover rate of nurses in public hospitals (excluding trainees) rose from 3.24% (615 nos.) in 2006/07 to 4.66% (877 nos.) in 2008/09 whereas the annual appointment of nurses rose from 527 nos. to 874 nos. only within the same period.

C. Impacts on Doctors' Training

615   Certain clinicians were concerned about the deprived training opportunities for junior doctors if experienced nurses were to take up the care coordination role in managing unstable patients during out-of-hours. The Steering Committee would like to emphasise that the initiative was aimed to improve patient safety and foster teamwork through advanced patient assessment, protocol-based care and effective multi-disciplinary collaboration. Instead of taking away junior doctors' training opportunities in acute patient management, enhancing senior nurse coverage during out-of-hours would help identify and stabilise unstable and critical patients who required urgent intervention, and enable on-call doctors to prioritise their work and refocus on core clinical care and due specialist training. Clinical supervision during out-of-hours could also be improved with enhanced collaboration and care coordination in emergency situations.

B. Introducing Common Ward Language to All of HA's Hospital Clusters

616   A safe culture which did no harm to patients entailed design of a safe system and safe practice in care delivery. Overseas studies revealed that 54% of patients had sub-optimal care prior to admission to the Intensive Care Unit ("ICU") and 40% of admissions to the ICU might have been avoided if earlier intervention had occurred[32]. As patients emerged quicker and sicker, HA needed to respond faster and slicker. Tools that could reliably identify deteriorating patients and trigger timely intervention would thus improve patients' outcome and reduce their mortality and morbidity. To this end, HA had put safe care process as one of its top five risk management programmes in both 2008/09 and 2009/10 in order to ensure the quality of care and patient safety.

617   Implementation of common ward language was a key supportive strategy under HA's Doctor Work Reform for enhancing the quality of care and patient safety in all its hospital clusters. It comprised use of an integrated observation chart with Modified Early Warning Score ("MEWS") and adoption of a unified communication tool using SBAR (i.e. situation, background, assessment and recommendation) to facilitate effective patient assessment and trigger of timely specialist intervention for deteriorating or potentially critical conditions[33].

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[32]   McQuillan et al, 1998 [BMJ]4.

[33]   Both MEWS and SBAR were adopted from the National Health Service Trust in the United Kingdom.

618   In brief, MEWS was a bedside clinical scoring system which monitored the vital signs of systolic blood pressure, pulse rate, respiratory rate, temperature and level of consciousness to identify patients at risk of deterioration. Abnormal physiological values over time indicated the need for timely response and specialist intervention according to pre-defined action pathways. MEWS was most applicable to monitor adult patients in general wards, and was first put into use in an integrated observation chart in the New Territories East Cluster in February 2008. The integrated observation chart with MEWS (Figure. 6.2) was subsequently refined, standardised and rolled out to the other hospital clusters by stages. On the other hand, SBAR provided a structured and uniform communication approach to facilitate handover of patients' conditions in a multi-disciplinary setting in a succinct and concise manner. It was initially taken by the New Territories West Cluster in 2007 and a Chinese version was launched in the Kowloon West Cluster in July 2008 as well (Figure. 6.3). Twelve sessions had been conducted in the past three years to promulgate wider use of the tools in patient assessment and multi-disciplinary communication; and the success of implementing the common ward language in enhancing patient safety was shared among 150 nurses in a forum conducted in September 2009. By the end of 2009/10, the common ward language had been rolled out to all of HA's hospital clusters as part of their risk management priorities to enhance patient safety.

Fig. 6.2 – Integrated Observation Chart with MEWS

Fig. 6.3 – SBAR Communication Tool

619 On the whole, MEWS was an objective, measurable, easy to use and safe tool for use on different types of common diseases. Its beauty lies in the ease with which MEWS could logically be fitted into the patient assessment process where the observation chart would give a visual cue for MEWS calculation until the threshold point was reached to trigger graded response and timely intervention according to defined action pathways. Patient care could thus be prioritised with enhanced safety, alongside improvements in patient observation and documentation. In a local study involving 427 emergency patients, MEWS was found to be a useful screening tool to identify patients at risk of deterioration who required increased level of care as hospital inpatients or in the ICU. Moreover, where experienced staff was engaged in other clinical activities, the use of MEWS could aid close monitoring of patients and identification of high-risk patients in the Observation Ward of the Accident and Emergency Department[34]. The implementation of the integrated observation chart with MEWS, supplemented with the use of SBAR in multi-disciplinary communication, could therefore enhance teamwork and contribute to improving the quality of patient monitoring for safer and more effective management. Inexperienced doctors and nurses could also count on MEWS to prioritise care and attend to patients at risk of deterioration in an acute hospital setting.

Issues of Concern

620 While the common ward language could help improve patient monitoring and multi-disciplinary communication on patients' conditions, wider application of the tools, in particular the integrated observation chart with MEWS, in triggering specialist intervention for deteriorating patients had been limited so far. For one thing, certain clinicians considered it infeasible for MEWS to replace comprehensive clinical assessment and clinical judgment in patient monitoring; and MEWS was deemed not applicable to sub-specialty units like the coronary care and acute stroke units. Moreover, clinicians were unable to predict the overall outcome of critical illnesses through MEWS monitoring. Given few clinical data in literature to prove its effectiveness in support of the track-and-trigger system, clinical departments could but use MEWS as a supplementary tool for patient observation only.

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[34] Hong Kong Journal of Emergency Medicine, 2006; 13:24-30 – The local study "Validation of MEWS in Emergency Department Observation Ward Patients" was conducted in the Hong Kong East Cluster in 2009.

621   The Steering Committee recognised the clinicians' concern over patient safety in their limited application of MEWS to trigger further interventions for deteriorating patients. While MEWS was a supplementary rather than comprehensive tool for patient monitoring, its effectiveness could only be maximised with due application of the tool, availability of action pathways, support of complementary measures like SBAR and proper staff training. As discussed above, the integrated observation chart with MEWS furnished the physiological changes of patients over time in a variety of common diseases. It helped identify patients with deteriorating conditions for prioritised care and was not meant to impede the more frequent monitoring of high-risk patients who had reached the threshold point of triggering active assessment or specialist intervention. Besides, subsequent patient management should be protocol-based and detailed guidelines should be defined in advance in order to ensure that proper calls were made for on-site senior nurses or clinicians' advice and suitable interventions were provided for deteriorating patients. Adoption of a standardised communication approach, like SBAR, would definitely smooth out the communication process; and proper training was crucial to get all involved health carers familiar with the protocol-based workflow and care procedures. HA might consider gathering more local data and conducting regular compliance audits as well as user reviews in order to evaluate the effectiveness of the track-and-trigger system and ensure that both doctors and patients could benefit from the implementation of the common ward language in acute care management.

C. Piloting an Electronic Handover System in Selected Acute Hospitals

622   Effective handover of patients' information was a key element to ensure the continuity and safety of patient care delivered under a shift or on-call mode of operation. With the corporate initiative to bring in pragmatic work practice and reduce doctor work hours in the past years, there had been a rising need for a structured and comprehensive multi-disciplinary handover system among the health carers. Yet, literature showed that the quality of conventional handover among doctors via verbal or manual means could be poor, and certain clinicians had expressed that inadequate information about deteriorating patients who required urgent care was a major risk that should be tackled immediately. As clinical staff was often busy during out-of-hours, a multi-disciplinary handover system that could facilitate essential information transfer for critically ill and unstable patients was most crucial to ensure that the right care was delivered to the right patients at the right time.

623   HA took the preponderance of its modernised information technology and pioneered the development of an electronic handover function in its Clinical Management System (Version II) ("CMS II") for pilot in three acute hospitals, viz. Pok Oi Hospital, Tseung Kwan O Hospital[35] and Yan Chai Hospital, in early 2009. Major stakeholders' inputs were enlisted, including clinicians, nurses, health informaticians and information technology specialists, to define the user requirements and oversee the staged system development. It was the first of its kind in the healthcare sector around the world which allowed access to patients' demographic data, clinical information, laboratory and radiological results as well as drug prescriptions via a single system. Besides, multiple accesses were permitted at the same time and users could log on the system at any time through any networked station in the hospital, upload the latest patient data efficiently and retrieve them according to patients' needs and their own preferences (Figure 6.4). The electronic handover function also provided an additional platform to streamline multi-disciplinary handover on critically ill and unstable patients between shifts, help prioritise care for those requiring urgent review and attention, and improve clinical supervision during out-of-hours. It surpassed the conventional mode of handover in improved user-friendliness, minimal additional workload, better documentation and greater flexibility of access at different time and locations (Table 6.1).

Fig. 6.4 – Workflow of Electronic Handover Function

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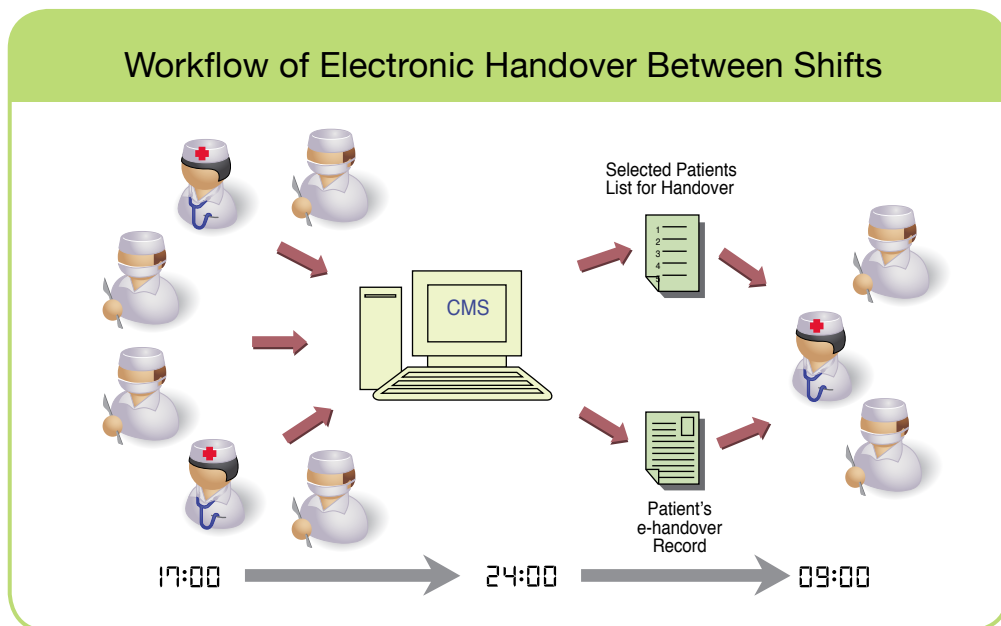
[35]   The electronic handover function was piloted in the medical stream specialties of Tseung Kwan O Hospital only.

Table 6.1 – Comparison between Electronic and Conventional Handover Modes

	Electronic Handover	**Conventional Handover**
Extra resources required	Modification of CMS & hardware addition	Doctors and nurses hours
Multi-disciplinary handover	✓	✓
Effectiveness	✓	✓
Flexibility	✓	✗
Good Documentation	✓	✗
Room for clinical audits	✓	✗

624   In a retrospective case review and questionnaire survey conducted in the three acute pilot hospitals in April 2009[36], as shown in Figure 6.5, over 90% of the new electronic handover records and updates on existing records were found to be completed within 5 minutes and 1.5 minutes respectively. Besides, 98% of the respondents expressed that they could easily access the electronic handover function through CMS II while on duty and 87% found it user-friendly in terms of data input and information retrieval. Furthermore, 76% considered that the electronic mode could facilitate the multi-disciplinary handover for critically ill and unstable patients while 85% opted for building the electronic handover function in HA's CMS III in future for enhanced patient safety.

Fig. 6.5 – User Survey on Electronic Handover Function

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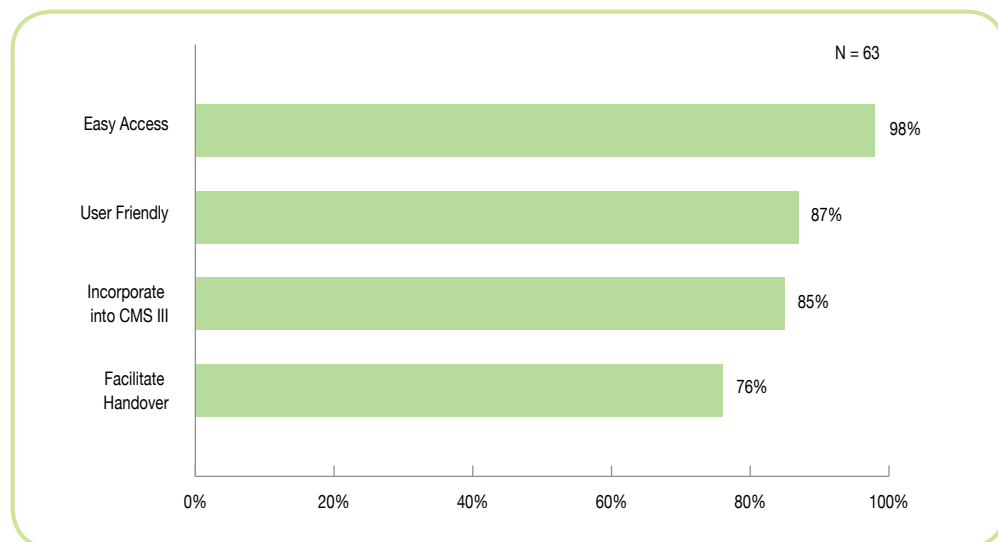
36   The retrospective case review of 92 electronic handover transactions was conducted in the three acute pilot hospitals in January to April 2009 whereas the questionnaire survey was conducted in April 2009.

625   On the whole, the electronic mode of handover was an area where Hong Kong took the idea from its overseas counterparts and developed it further and deeper[37]. It facilitated patient prioritisation which directed doctors' efforts to the most needy patients, thus ensuring their time was used most efficiently. It also provided a structured channel of information and accountability transfer among the healthcare professionals in different disciplines; and improved the continuity and safety of patient care as well as clinical supervision during out-of-hours. While system accessibility, reliability, ease of use, minimum workload and availability of essential data remained critical for user acceptance of the electronic means of handover, HA should go for its wider application in different clinical specialties and hospital clusters, in particular under the emerging modes of operation like full or partial shifts of work and increasing patient transfers between hospitals under the acute trauma diversion and treat-and-transfer arrangements for specialist care. HA was recommended to integrate the electronic handover function into its upcoming CMS III development and designate a team to coordinate the system development and rollout arrangement.

Issues of Concern

626   While technology had saved time and eased the shift transitions by facilitating multi-disciplinary handover on an electronic platform, the frontline clinicians were concerned about the transient information of patients being recorded in the system which might disrupt, instead of facilitating, the continuity of care for patients who truly required urgent assessment and clinical intervention at the juncture of shifts and during out-of-hours. Moreover, electronic handover was something novel to the medical profession and doctors took time to accommodate the new practice and build trust in the electronic platform in place of their conventional verbal and manual handover.

627   In this regard, the Steering Committee would like to clarify that the electronic platform was meant to expedite the multi-disciplinary handover process by providing a structured, efficient and flexible means of handover via an integrated clinical management system. It did not preempt the need for continuous assessment and periodic reference to patients' clinical notes for their latest conditions. Moreover, education and training, coupled with strong management drive, would help the healthcare professionals get with the new system gradually. HA was recommended to continue formulating and refining its clinical management

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[37]   Comments of Mr Andrew FOSTER, overseas expert of Steering Committee on Doctor Work Hour.

protocols and operational guidelines to manage clinical emergencies; and HA might consider conducting larger-scale studies to refine the electronic handover platform in order to meet the needs of different clinical specialties in ensuring the continuity and safety of patient care.

D. Strengthening the Core Competency of Health Carers

628   In order to ensure patient safety, strengthen the core competency of healthcare professionals in acute care management in a multi-disciplinary setting and relieve doctors from their heavy workload and mundane technical tasks in care delivery, HA had made great efforts to organise various training programmes for its health carers, including doctors, nurses and the care technicians, in the past years. Two clinical core competency courses were organised for 91 basic surgical trainees and 14 nurses in the surgical stream specialties while three batches of clinical skill enhancement programmes were conducted for 287 experienced nurses of different public hospitals. Besides, since the start of Doctor Work Reform, a total of 95 care technicians had been trained to provide round-the-clock blood-taking, electrocardiogram and intravenous cannulation services in various acute public hospitals.

A. Clinical Core Competency Courses for Doctors

629   The Hong Kong Academy of Medicine reiterated that limiting doctors' average weekly work hours to 65 should not have major impact on their postgraduate medical training but a further reduction in the work hour target would in principle have long-term impacts[38]. In the past two years, HA kept on strengthening the core competency skill set of junior and on-site on-call doctors in acute care management in order to reduce risks during out-of-hours and foster teamwork and collaboration among clinical specialties for enhanced patient safety. This was also in line with certain hospital management's view that service and training should complement each other such that junior doctors being trained for one specialty could manage basic patient problems under the care of doctors in the other specialties.

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[38] HKAM's feedback on doctor work reform consultation documents in June 2007 and Dec 2009.

630   Two clinical core competency courses, covering management of acute surgical and orthopaedic conditions, peri-operative care as well as scenario-based communication skills, were conducted in the past years. The first course, delivered in November 2008, had equipped 24 basic surgical trainees and 14 nurses in the surgical stream specialties with the requisite skills in recognising, assessing and managing patients in critically ill and unstable conditions in both emerging and urgent situations. The hospital clusters, specialty colleges and the participants welcomed the course, which was now included as a mandatory module of the specialist training for all basic surgical trainees in HA hospitals. The second clinical core competency course, jointly organised by the Hong Kong College of Anaesthesiologists, the Hong Kong Intercollegiate Board of Surgical Colleges and HA, was delivered in November and December 2009 with refined contents for HA's 67 first-year basic surgical trainees. The majority of participants found the clinical core competency course stimulating and practical for use in the work place. HA was recommended to continue facilitating doctors' training, organising similar competency-based and refresher courses for its frontline doctors and introducing various modes of training in order to improve teamwork in a multi-disciplinary setting and enhance patient safety, especially during out-of-hours.

631   The Steering Committee noted that the HKAM would take a more comprehensive approach to enhance the quality of postgraduate medical education, modernise the Fellowship training system as to produce Fellows meeting societal needs in a sustainable manner, and monitor the process such that the quality of doctors' training would not be affected. It had commissioned an internal working group to study the correlation between work hours and specialist training, and define the core competencies of trainee doctors before conducting a cohort study to assess the long-term impacts of work reform on doctors' training. Consultations and surveys with fellows, trainees and trainers would also be conducted. Simulation would play a more important role in future training, as it provided safe and effective opportunities for learners at all levels to acquire practical skills required for quality and safe patient care. A combination of competency and time-based training using simulation technology would thus be provided to ensure the quality of postgraduate

medical education under HA's new work hour arrangements. HA was recommended to work closely with the HKAM in ensuring the quality of doctors' postgraduate medical education and evaluating the work reform impacts on doctors' training in different specialties.

B. Clinical Skill Enhancement Programmes for Nurses

632   Recognising that nurses were an integral part of the multi-professional team in delivering quality healthcare services, HA was mindful to enhance their professional training and competency in acute care management in the past years. In a staff opinion survey with 264 healthcare professionals conducted in May 2008, training was a major concern among the nurses in enhancing their professional roles and strengthening the senior nurse coverage during out-of-hours[39].

633   In this connection, HA conducted three batches of commissioned clinical skill enhancement programmes for 287 local experienced nurses in 2008/09 with a view to gearing them up in advanced patient assessment and stabilization, clinical decision making, supervision and intervention as well as response coordination in managing clinical emergencies. Local training resource was also developed through a bespoke train-the-trainer workshop in order to facilitate both clinical course design and delivery in the local setting. The training programmes were well received by the frontline nurses and hospital clusters; and positive changes were observed in the participants' views towards the enhanced nursing role in the care team after the training. HA was recommended to keep on organising similar clinical skill enhancement programmes for all nurses in order to improve their professional and core competency, support and relieve doctors' work in patient management and enhance the quality of care and patient safety in public hospitals.

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[39]   The staff opinion survey was conducted during the HA Convention 2008 with a random sample size of 264 respondents, with 12 doctors, 242 nurses and 10 other healthcare professionals. The nurses were most concerned about training, management support and manpower availability in taking up the enhanced roles during out-of-hours.

C. Care Technician Training Course

634 As discussed in previous chapters, developing the expertise of non-professional staff was a key and effective strategy for relieving the frontline doctors and nurses from mundane and repetitive tasks. So far, more than 400 care technicians had been trained to provide round-the-clock blood-taking, electrocardiogram and intravenous cannulation services in different acute public hospitals. Their scope of functions could be expanded to meet the evolving patient needs in the society; and HA was recommended to develop suitable training courses and draw in external expertise wherever possible, coupled with various quality assurance programmes and regular safety checks, so that patients could continue enjoying timely and quality services while the healthcare professionals could be relieved from their busy work and refocus on core clinical duties.

Issues of Concern

635 Certain frontline clinicians were worried about the impacts of Doctor Work Reform on the quality of doctors' training and the outcome of patient care. In particular, junior doctors' training opportunities would be deprived under the new work hour arrangement, enhanced senior nurse coverage during out-of-hours and engaging trained non-medical staff in care delivery. The Steering Committee considered that quality training did not rely solely on the volume and range of case exposure but could be achieved through a structured approach imbued in doctors' normal work pattern. With the introduction of various pilot work reform strategies, such as delegating trained non-medical staff to perform technical tasks, implementing new operational modes with augmented operating theatre capacity in the extended day and launching pragmatic work arrangements like partial shifts and short-call systems, many of the negative health impacts on doctors' work and learning effectiveness due to prolonged night work and deprived sleep hours had been reduced[40]; and doctors could now have more quality hours for service and training.

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[40] Sleep deprivation impairs both performance and skill retention and is risky to patient care – Designing safe rotas for junior doctors in 48-hour week, Royal College of Physicians (Sep 2006).

636 On the other hand, enhancing senior nurse coverage during out-of-hours was meant to improve the care process and teamwork by performing advanced patient assessment, delivering protocol-based care and participating in multi-disciplinary handover. The initiative was considered effective to improve patient care, and was particularly beneficial to both junior doctors and nurses with only a few years of experience. Besides, trainee doctors should have mastered the basic skills of blood-taking, electrocardiogram and intravenous cannulation in their early years of professional training. Their expertise and time should be focused on clinical care for patients instead of these low-complexity technical tasks in wards, which were now increasingly delegated to the trained non-medical health carers.

637 Finally, HA had developed an electronic platform to facilitate multi-disciplinary handover and organised structured core competency training for basic surgical trainees. Doctors should now have more opportunities to engage in better clinical supervision and quality professional training for enhanced patient safety. The Steering Committee fully supported the HKAM's initiative to evaluate the work reform impacts on doctors' training. HA was recommended to continue collaborating closely with the HKAM and contemporaneously exploring the training needs of different specialty colleges in order to develop suitable training programmes for frontline doctors in order to meet the evolving healthcare needs of the society.

THE STEERING COMMITTEE'S RECOMMENDATIONS

638 The Steering Committee put forward the following recommendations in order to improve the quality of care and patient safety in HA hospitals:

a) HA was recommended to enhance the professional and core competency of all nurses in acute care coordination, patient assessment, responsiveness and emergency stabilization through development of clinical protocols and regular training. The roles of other allied health professionals, where appropriate, could also be extended in order to relieve the workload of doctors and improve the healthcare services in public hospitals.

638 b) HA was recommended to enhance the senior nurse coverage, supplemented by regular safety audits, so as to provide advanced, protocol-driven and competency-based nursing support for clinical departments in all acute hospitals at night. HA might look to the manpower supply and the peculiar situations in different hospitals and set up teams of senior nurses or gear up all night nurses to perform the enhanced functions. Both approaches could improve the continuity of care and patient safety while lessening frontline doctors' workload and ultimately their on-site on-call frequency and work hours.

c) HA was recommended to extend the common ward language to all public hospitals as appropriate and establish a uniform approach of multi-disciplinary communication in the care process. A sound track-and-trigger system, supported by clear protocols and detailed guidelines, should be set up to ensure that deteriorating and potentially critical patient conditions could receive timely specialist intervention. Besides, regular compliance audits and user reviews should be conducted in order to build evidence of system effectiveness and ensure that both doctors and patients could benefit from the work reform strategy for reduced workload and safer service.

d) HA was recommended to continue formulating, updating and promulgating both intra and inter-departmental clinical management protocols and electronic patient pathways which involved multi-disciplinary healthcare professionals, coupled with regular clinical audits and performance management, in order to optimise and improve care through teamwork.

e) HA was recommended to clear with relevant professional bodies on the core competency of health carers in different disciplines and develop a framework to facilitate enhancing their scope of professional duties in delivering quality healthcare services. Continuous stakeholder communication and engagement would definitely smooth out the knotty issues.

f) HA was recommended to integrate the electronic handover platform into the upcoming Clinical Management System (Version III) and extend its application to all clinical specialties and hospital clusters in order to facilitate structured and comprehensive handover of critically ill and unstable patients between shifts, ensure continuity and safety of patient care and strengthen clinical supervision during out-of-hours. A designated team should be identified to coordinate the system development and rollout arrangement.

638   g) HA was recommended to continue facilitating doctors' training, organising refresher courses in collaboration with different clusters and specialty colleges, and introducing various supportive modes of training in order to strengthen the core competency skill set of frontline doctors in acute care management under a multi-disciplinary setting. HA was also recommended to work closely with the HKAM in evaluating the work reform impacts on doctors' training in different specialties.