For information
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Legislative Council Panel on Health Services

Accident and Emergency Services provided by the Hospital Authority

Purpose

This paper briefs Members on the Accident and Emergency ("A&E") services provided by the Hospital Authority ("HA") and the HA's preparedness in handling public requests for emergency medical attention within the vicinity of public hospitals and clinics.

A&E Services in Public Hospitals

2. A&E services in Hong Kong are mainly provided at public hospitals under the HA. The A&E departments in 18 HA hospitals aim to provide high standard of service for critically ill or injured persons who need urgent medical attention. In 2016-17, 2017-18 and 2018-19, the HA recorded a total of 2.23 million, 2.19 million and 2.16 million (provisional figure) visits to the A&E departments of public hospitals respectively, representing an average number of 5 900 to 6 100 attendances per day.

3. The HA has adopted a triage system since early 1990s which classifies patients attending the A&E departments into five categories according to their clinical conditions, which include critical cases as Triage Category I, emergency cases as Triage Category II, urgent cases as Triage Category III, and semi-urgent and non-urgent cases under Triage Category IV and V respectively. It helps categorise the priority of consultation and intervention rendered to patients' clinical need.

4. The demand for A&E services usually remains high during the winter influenza seasons or infectious disease outbreaks. Each year, the period from January to early April is generally considered as the winter influenza peak season. The high incidence of influenza infection, together with other factors such as

weather conditions that trigger the onset of symptoms of chronic diseases, leads to surge in service demand. The peak A&E attendance, in total, could reach over 7 000 cases per day.

5. Besides, the A&E departments provide the first-line emergency medical support for victims of disasters. Civil disasters, such as collision of vessels near Lamma Island in 2012, fire accident in MTR in 2017, and serious traffic accident involving a topple over of a double-decker bus in Tai Po in 2018, always demand immediate pooling of resources to provide prompt care to the victims while compromising the expectation of the patients awaiting consultation, in particular those categorised as semi-urgent and non-urgent cases.

6. The role of first-line emergency medical support also extended to territory-wide planned major events such as Formula E Racing and Hong Kong Chartered Marathon at which preparedness of A&E departments need to be scaled up in anticipation of sudden up-surge of casualties from the events.

Challenges Encountered

7. A&E departments in the HA are facing challenges due to various factors as set out in the ensuing paragraphs.

Ageing Population and Increasing Case Complexity

8. According to the Census and Statistics Department, Hong Kong experienced a continuous decline in mortality during 1986-2016, leading to an increase in life expectancy. The expectation of life at birth for male increased from 74.1 years in 1986 to 81.3 years in 2016, and that of for female increased from 79.4 years to 87.3 years during the same period. The number of A&E first attendances of patients aged 65 or above has increased by 3% in the past three years. In 2018-19, the total number of A&E first attendance of patients aged 65 or above was 665 586 (provisional figure) as compared to 630 871 in 2016- 17, which contributed around 29% and 32% of all A&E first attendances respectively. The clinical procedures in handling the aged patients at A&E departments are prone to be longer, which may be due to the complexity of the diseases and concomitant comorbidity.

9. In addition to the effect of ageing population, the HA noted that there

was an increase of 4.1% in Triage categories I, II and III patients, with the number of attendances increased from 790 432 in 2016-17 to 822 854 (provisional figure) in 2018-19. The number of attendances in various triage categories in A&E departments of the HA and the average waiting time for A&E services in 2016-17, 2017-18 and 2018-19 (provisional figures) are at **Annex A**. These groups of patients demanded more complex medical intervention and accounted for 39.3% (provisional figure) of the overall A&E first attendances in 2018-19.

Service Model Advancement

10. Due to advancement in modern medicine, it has become a trend to adopt multidisciplinary approach to foster holistic patient care. Since 2016, the HA has set out protocol for early management of post chemotherapy febrile patients to provide such patients with antibiotics within four hours after triage. Besides, the HA has strived to enhance the time-critical care and shorten the time-to-intervention at the pre-hospital phase through collaboration between A&E departments and ambulance services of the Fire Services Department. As such, patients with ST-segment-elevation-myocardial-infarction will receive early Primary Percutaneous Coronary Intervention, and, similarly, intravenous thrombolytic therapy will be timely initiated for acute ischemic stroke patients upon their arrivals at A&E departments.

11. Moreover, with advancement in technology and availability of point-of-care tests to initiate early investigation of complex cases, the number of requests for radiological examinations, including X-ray and Computed Tomography scan, and blood tests conducted for A&E first time attendances increased tremendously in the past decade.

Manpower Shortage

12. In 2018-19, 506 doctors and 1 219 nurses worked in the A&E departments of the HA. The attrition rates of A&E doctors and nurses in 2018-19 was 5.1% and 5.9% respectively, which was equivalent to 25 full-time doctors and 66 full-time nurses. The lagged replenishment of unfilled vacancies imposes challenge to the A&E service provision.

Impact of Access Block

13. Inpatient beds occupancy in public hospitals remains high whole year round, and the higher demand of inpatient services during the winter season usually result in access block for patient admission. In fact, a number of acute hospitals were occasionally reported to have more than 5% of patients with access block time above four hours in the past winter influenza season. In addition, the limited space in certain A&E departments also exacerbate the crowdedness which lead to inefficient patient flow, and created additional workload to healthcare staff.

Service Performance

14. The triage system serves to prioritise patients according to their clinical conditions. The HA has set performance pledge on waiting time to ensure patient who need urgent medical attention are to be treated at appropriate time. In 2018-19, the HA was able to achieve the performance pledge in providing medical treatment immediately to all critical patients triaged under Triage Category I, and attending to 97.1% (provisional figure) of emergency patients triaged under Triage Category II within 15 minutes.

15. For Triage category III (urgent) patients, the percentage of cases seen within the pledged time (i.e. within 30 minutes) was 76.6% (provisional figure) in 2018-19, which was below the pledge performance that 90% of Triage Category III patients should be managed within 30 minutes. For patients presented with semi-urgent or non-urgent clinical condition, i.e. patients triaged as Triage Categories IV & V, they had to wait for consultation and the average waiting time of these patients were 111 minutes and 125 minutes (provisional figure) respectively.

Measures to Sustain A&E Services in Public Hospitals

16. The HA strives to sustain and improve its A&E services through various short to longer term measures set out in the following paragraphs.

Strengthening Manpower

17. The HA has been closely monitoring the A&E situation and make

appropriate manpower arrangements in light of service needs and operational requirements. The HA has strived to strengthen its workforce by recruiting doctors and nurses. The number of doctors in the A&E specialty increased from 444 in 2014-15 to 506 in 2018-19, while the number of A&E nurses has increased from 993 to 1 219 in the same period. The numbers of doctors and nurses working under the A&E departments in the past five years are at **Annex B**..

18. In addition, the HA has resorted to recruitment of non-locally trained doctors under Limited Registration ("LR") since 2011-12 as one of the measures to alleviate workload of frontline doctors in specialties in need. Up to May 2019, four non-locally trained doctors are working in the A&E departments under LR.

19. Besides, the HA has implemented the Special Retired and Rehire Scheme to re-employ suitable serving staff as full-time staff after their retirement to retain expertise for training and knowledge transfer, and to help alleviate manpower pressure. The arrangements of re-employment after retirement have been enhanced with effect from 1 April 2019 for which the last drawn basic salary of the staff before leaving service at normal retirement age will be offered, subject to the maximum of the prevailing rank offered, in order to recognise the previous experience and contributions of the retired staff. As at 30 April 2019, there were 64 doctors and 68 nurses rehired after retirement and working at various departments including the A&E specialty of the HA. The HA will continue to encourage more retired staff to rejoin the HA to continue to provide specialised service after retirement.

20. In 2018, the HA set up a Locum Office to expedite and enhance the recruitment process of part-time staff and to attract more potential talents to work in the HA for short-term flexible engagement on need and ad-hoc basis, as well as to supplement full-time workforce, especially during winter influenza season. The recruitment of doctors and nurses through the Locum Office Website have been started since December 2018. As at 24 May 2019, 27 doctors and nurses have been recruited to work in the A&E departments under the locum recruitment.

21. The HA also launched the A&E Support Session Programme in 2013 with a view to recruiting additional medical and nursing staff from non-A&E

departments or A&E departments to alleviate the workload of A&E doctors and nurses by managing semi-urgent and non-urgent patients. In 2018-19, the Support Session Programme has been rolled out to all 18 A&E departments in the HA and provided around 25 600 service hours.

Enhancement of Emergency Medicine Ward Services

22. The Emergency Medicine Ward ("EMW") is an integral service area established in 2007 under the A&E departments. The EMW, led by senior emergency physicians, provides integrated and protocol driven care to patients to attain a range of goals, in particular reduction of hospital admissions and improving access block situation. As at 2018-19, there were 16 acute hospitals with EMWs operating under their A&E departments as compared to two acute hospitals since its establishment in 2007, and the number of hospital beds increased from 70 in 2006-07 to 533 in 2018-19. In 2018-19, the EMWs provided service to 92 846 admissions. The number of hospital beds and admissions in EMWs in the HA since 2006-07 to 2018-19 are provided at **Annex C**.

Adjustment of A&E Service Charge

23. In accordance with the HA fees review policy, fees and charges of the HA's medical services were adjusted upwards in June 2017, with the charge for using A&E services being increased from $100 to $180 for Eligible Persons. Since the adjustment of A&E service charge, A&E attendance of Triage Categories IV and V decreased by 6.9% and 17.6% respectively between July 2017 and June 2018, despite a 1.3% increase in Triage Categories I to III patients. It is anticipated the adjustment of service charge can help modify the behavior of patients in seeking medical consultation at A&E departments. Nevertheless, a longer period of time is required to observe the effect pertaining to the measure.

Enhancement in Transparency of the A&E Waiting Time Information

24. The HA has also developed an open platform for releasing information on waiting time of individual A&E department to the general public since 2016. Patients could obtain the latest retrospective waiting time information via the HA website and mobile application (i.e. "HA Touch") which serves as a reference to

facilitate patients to understand the overall service situation before attending A&E departments.

25. In addition, the majority of the A&E departments have developed local queue management systems in the past years to facilitate patients waiting for consultation to understand the current queuing situation at the waiting hall. To further enhance and standardise the system, the HA will implement the Corporate Queue Management System ("CQMS") in all A&E departments. The CQMS has been piloted in Queen Elizabeth Hospital ("QEH") and Tseung Kwan O Hospital in 2018-19, and will be further rolled out to all A&E departments in phases by 2021-22. Furthermore, the HA will also explore releasing the real-time queueing information through mobile applications so that patients could manage their time with greater flexibility while waiting for consultation as they could access this information from their smartphones anytime and anywhere.

Hospital Development and Redevelopment

26. To cater for the growing healthcare service demand arising from aging population and to improve existing services, the Government has worked with the HA to devise the first ten-year Hospital Development Plan. A number of the existing acute hospitals would undergo redevelopment or expansion, including Kwong Wah Hospital, United Christian Hospital, Tuen Mun Hospital and Queen Mary Hospital. In the recent years, two new acute hospitals have commenced services, namely North Lantau Hospital ("NLTH") and Tin Shui Wai Hospital ("TSWH") in 2013 and 2017 respectively. The expansion and enhancement of facilities in the A&E, including the new design and provision of medical equipment, shall facilitate operation and patient flow, thus enhance the efficiency of the A&E services to meet the service demand and ensure service quality and patient safety.

Other Measures

27. The HA has also implemented various programmes to specifically address the pressure area of A&E services, for example, Rapid Assessment Team in QEH and designated Triage Category III team in Prince of Wales Hospital to cater for the increasing number of Triage Category III (urgent) attendances. Besides, the A&E departments have been adopting a collaboration service model

with other clinical specialties, such as geriatric support for elderly patients and Psychiatric Consultation Liaison Service for patients presenting psychiatric problems. These collaboration service models aim at facilitating early patient assessment, channel the patients to fast track clinics or discharge with community and social support, and ultimately reduce avoidable hospital admission.

Handling Emergency Medical Attention within the Vicinity of Public Hospitals

28. In response to the past unfortunate incidents that happened outside Caritas Medical Centre in 2008 and NLTH in 2015 respectively, all HA hospitals and clinics are required to set out clear customised guidelines and response plans to handle emergency medical attention within their vicinity.

Key Components of Guidelines and Response Plans

29. Every HA hospital and clinic is required to set up a Designated Response Team ("DRT"). The team should quickly arrive at the scene with resuscitation kits and portable Automated External Defibrillator when being called upon in order to render medical support.

30. All members of the DRTs are specifically required to complete and obtain at least a Basic Life Support & Automated External Defibrillator training certificate. Frontline staff such as security guards, foremen, receptionists and porters are prioritised for taking the course as they are also likely to be the first point of contact with the individual requiring emergency medical needs. Other HA staff are also encouraged to attend these trainings and refresh frequently in order to provide adequate support when required. A total of 5 246 and 1 603 HA staff completed Basic Life Support and Advanced Cardiovascular Life Support Course respectively in 2018-19.

31. Periodic drills and exercises were conducted within individual cluster each year to refresh staff with the necessary skills and knowledge. The number of drills conducted in 2016, 2017 and 2018 was 108, 144 and 127 respectively.

32. Besides, the response plans and guidelines have been issued to relevant staff and are accessible on the hospital intranet for reference. Hospitals and

clinics are also advised to provide adequate promulgation the plans to all frontline staff.

Way Forward

33. With the increasing service demand and the challenges faced by the A&E services over the years, the HA has strived to develop innovation and technology initiatives to improve safety, quality, effectiveness and efficiency of A&E services. All A&E departments would move towards electronic documentation with less paper transaction, followed by streamlining the clinical workflow and enhancement of patient safety. The experience in NLTH and TSWH would also set an example that help the establishment of roadmap in the coming years. The HA would continue to explore measures for enhancement of the quality of A&E services provided in public hospitals.

34. Members are invited to note the content of the paper.

Food and Health Bureau
Hospital Authority
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Annex A

Statistics on A&E Service Utilisation and Waiting-time

Number of attendances in various triage categories in A&E departments of the HA in 2016-17, 2017-18 and 2018-19 (provisional figures)

HA Overall	Number of A&E first attendances				
	Triage Category I (Critical)	Triage Category II (Emergency)	Triage Category III (Urgent)	Triage Category IV (Semi-urgent)	Triage Category V (Non-urgent)
2016-17	20 210	47 491	722 731	1 265 368	107 645
2017-18	22 144	52 111	749 179	1 205 421	94 675
2018-19 (provisional figures)	22 229	52 012	748 613	1 188 087	79 258

Average waiting time for A&E services in various triage categories in 2016-17, 2017-18 and 2018-19 (provisional figures)

HA Overall	Average waiting time (minutes) for A&E services				
	Triage Category I (Critical)	Triage Category II (Emergency)	Triage Category III (Urgent)	Triage Category IV (Semi-urgent)	Triage Category V (Non-urgent)
2016-17	0	8	24	103	126
2017-18	0	8	26	114	127
2018-19 (provisional figures)	0	8	26	111	125

Annex B

Medical and Nursing Workforce of the A&E Specialty

HA overall	Strength of Doctors and Nurses in A&E Specialty[(1)]	
	Doctors	**Nurses**
2014-15	444	993
2015-16	462	1 079
2016-17	479	1 115
2017-18	488	1 148
2018-19	506	1 219

Note

(1) The manpower figures are calculated on full-time equivalent basis including permanent, contract and temporary staff in the HA.

(2) Doctors exclude Interns and Dental Officers.

Annex C

Number of Hospital Beds and Admissions in Emergency Medicine Wards

Year	Number of beds	Number of admissions
2006-07	70	5 235
2007-08	224	43 359
2008-09	294	62 626
2009-10	306	72 402
2010-11	329	77 586
2011-12	329	77 918
2012-13	339	73 320
2013-14	359	76 794
2014-15	379	78 276
2015-16	451	81 306
2016-17	463	86 543
2017-18	463	88 327
2018-19 (Provisional figures)	533	92 846