

For discussion
on 7 June 2005

Legislative Council Panel on Security

Provision of Emergency Ambulance Service

Purpose

This paper provides information requested by Members on questions concerning the adequacy of emergency ambulance service (EAS), and briefs Members on the measures being implemented and possible options being considered by the Administration.

Background

2. Under section 7(d) and (e) of the Fire Services Ordinance, Cap.95, the Fire Services Department (FSD) is tasked to “(d) assist any person who appears to need prompt or immediate medical attention ... (e) convey any person referred to in paragraph (d) to a hospital or other place where medical attention is available to him ...”.

3. The Ambulance Command of FSD comprises 2 291 ambulance personnel, who are disciplined staff. Training for ambulance staff is provided at a dedicated training facility in Ma On Shan. Everyday, an average of 183 ambulances, each manned by a three-man crew, are available for deployment during the day shift from 8:30 a.m. to 8:30 p.m., and 100 during the night shift from 8:30 p.m. to 8:30 a.m. An ambulanceman’s normal shift pattern is “two day-shifts, one night-shift and two day-offs”.

Demand for and Performance of EAS

4. In the five-year period from 2000 to 2004, the number of emergency ambulance calls increased from 459 658 to 536 359. This is an increase of 16.7% (or an average annual growth rate of about 3.9%), and is higher than the 2.7% increase in Hong Kong’s population in the same period. The ratio between such calls and our population increased from 1 : 14.6 to 1 : 12.9. During this period, the number of calls may have been affected by the introduction of charging for the Accident & Emergency (A&E) Departments of the Hospital Authority (HA) in November 2002 and the outbreak of SARS in 2003.

5. FSD's performance pledge is that its ambulances or ambulance-aid motorcycles arrive at the scene within 12 minutes of the emergency calls for at least 92.5% of such calls. The actual response time performance (RTP) from 2000 to 2004 was -

<u>Year</u>	<u>2000</u>	<u>2001</u>	<u>2002</u>	<u>2003</u>	<u>2004</u>
RTP	92.7%	91.8%	91.8%	93.2%	91.1%

As can be seen from the above, RTP hovered about 91% to 92% of calls. We have noted this gap of 1% to 2% with our performance pledge, and have been working on closing that gap.

Measures that have been Taken

6. The following are measures that FSD has taken to cope with the rising demand.

Third Generation Mobilizing System

7. In May 2000, the Finance Committee approved funding for the Third Generation Mobilizing System (TGMS). The TGMS was designed to enhance FSD's capability in mobilization and handle the projected growth of emergency calls up to 2013 without the need for additional staff at the Fire Services Communication Centre (FSCC). One of the benefits of the TGMS is that it may be able to reduce our response time, for instance, by enabling FSCC staff to identify the nearest ambulance available for dispatch to an incident. Also, the automation features of TGMS can improve the efficiency in information exchange by means of graphics and text transmission and hence reducing the time spent on voice communication. Exactly how much time can be saved in such ways will depend on the actual circumstances of individual cases and cannot be quantified in advance.

8. Although teething problems were encountered during the initial phase of commissioning in the New Territories Fire Command since 1 March 2005, substantial improvement has been made after fine-tuning and familiarization by staff with the operation of the new system.

FSD will continue to strive to stabilise the performance of the system so that it will yield its intended efficiency and functionality and improve the dispatch capability and utilization of ambulance resources. A report on the use of TGMS during the initial phase of commissioning is at **Annex** for reference.

Increase in Manpower

9. Given the rising demand for EAS, despite the Government-wide initiatives to control expenditure and the size of the civil service, we increased the strength of the ambulance stream from 2 219 in April 2000 to 2 291 in April 2005, or an increase of 3.2%. During the period, the Panel chaired by the Chief Secretary for Administration and the Financial Secretary has granted exceptional approval for FSD to hire 28 ambulancemen in 2004-05 by open recruitment. With another ambulanceman from in-service recruitment, 29 ambulancemen recruits have completed training and been posted to frontline units since February 2005. The Panel further approved open recruitment for 10 ambulance officers and 54 ambulancemen in 2005-06. The recruitment exercise is now underway.

Urgent Care Fleet

10. Apart from emergency ambulance calls from the public, FSD is also tasked with responding to urgent calls from hospitals of HA, which are requests for the transfer of patients from a hospital or medical institution to another where intensive care is available. The number of urgent calls handled by FSD from 2000 to 2004 is -

<u>Year</u>	<u>2000</u>	<u>2001</u>	<u>2002</u>	<u>2003</u>	<u>2004</u>
No. of calls	59 614	55 467	53 489	47 453	37 192

11. In April 2003, in consultation with HA, FSD introduced an Urgent Care Fleet (UCF), which now comprises 12 ambulances each manned by two-man ambulance crew instead of the normal three-man crew. This reduction in crew by one third has helped to release resources for emergency ambulance attendance.

Staggered Shift

12. The demand for EAS is higher during the period from around 10:00 a.m. to 10:00 p.m.. In July 2002, FSD introduced a staggered shift system by assigning 13 ambulance crews on a shift which operates from 11:00 a.m. to 11:00 p.m. to meet the high demand for EAS during that period of the day. Statistics show that during the trial period of implementing the staggered shift (from July to October 2002), the RTP of EAS has improved by 0.5%. FSD has extended the staggered shift to a total of 23 ambulance crews since February 2005.

Other Measures that Improve Service but not Response Time

13. During the period, FSD has introduced measures that improve our EAS but not RTP. FSD has continued to train ambulancemen to Emergency Medical Assistant (EMA) II¹ level and the Department was able to implement paramedic ambulance service in full since April 2005. This enables ambulancemen to provide more advanced pre-hospital care to the critically-ill or seriously injured, thereby increasing their rate of survival.

14. Also, in September 2003, FSD launched the First Responders (FRs) scheme which is aimed at increasing the pre-hospital survival rate of casualties and patients. FRs are frontline fire-fighters trained to provide basic life support to patients/casualties. Given the strategic location and more extensive coverage of fire stations, FRs may arrive at the scene of an incident earlier than the ambulance crew, enabling the delivery of basic life support to the patients/casualties in the first instance. The performance of FRs do not count towards our RTP for EAS, although they can provide some limited emergency medical care earlier than our ambulance crews and earlier than the 12-minute performance pledge for our ambulances.

15. It has to be pointed out that the FRs scheme is not intended to replace the ambulance service, which is why we have continued to train ambulancemen to EMA II level and do not count FRs' performance towards the RTP of our EAS.

¹ According to the classification of the Justice Institute of British Columbia Paramedic Academy, Canada, EMA II is a medical personnel with medical skills and knowledge to provide advanced pre-hospital care. Paramedic training for EMA II includes intravenous infusion, defibrillation and use of selected drugs.

16. In order to reach the scene of incident in the shortest possible time, an ambulance nearest to the incident location will be dispatched, regardless of which district the ambulance belongs to. Another measure, which is relevant to Members' question about deployment of ambulance across districts, is the Strategic Move-up of Ambulances. To meet operational needs and allow more flexibility in the deployment of ambulance resources, FSD has adopted a strategic move-up system for deploying ambulances. When the ambulance resources in one cluster of ambulance depots/stations are depleted, an ambulance from another cluster will be deployed to stand by in the area. This has helped to provide an appropriate ambulance coverage in different areas at any time.

Measures under Study

17. In general, we are looking into three areas for possible ways to enable us to sustain our high RTP standard in the short and long term -

- (i) We will continue to consider additional resources for EAS;
- (ii) We are studying whether we can adopt some demand management measures to ensure that EAS are more targeted at persons in genuine need of such services; and
- (iii) We will continue to review modes of service delivery to see if EAS resources can be put to better use.

Additional Resources

18. As noted above, despite Government-wide saving initiatives during the past five years, we have managed to modestly increase the strength of the EAS staff. Notably, despite the general recruitment freeze, exceptional exemption was given for FSD to recruit a total of 92 ambulance officers/ambulancemen in 2004-05 and 2005-06 by open recruitment. We will continue to consider additional resources for EAS in accordance with the Government's resources allocation processes.

19. At the same time as considering additional resources for EAS, we need to ensure that public funds are expended on services as intended, and as necessary and appropriate. Each ambulance requires substantial capital investment in equipment and personnel, and in recurrent terms for each ambulance trip. We need to try our best to ensure that EAS is provided to persons in genuine need of the service.

Demand Management

20. There are indications that in some cases, it might not have been necessary for the person to be conveyed by our ambulance. According to HA's A&E Triage Categorisation System, in 2004 43% of the ambulance conveyances to HA's A&E Departments were semi-urgent (such as bruising and sprain) or non-urgent cases (such as minor abrasion and gastroenteritis). It is possible that some of these patients can make their own way to A&E Departments, and that the prompt and immediate service of our ambulances is less necessary for these patients. If some of these patients can be encouraged to opt not to call for our ambulances, we will be able to respond faster to other patients who are in greater need for immediate medical attention.

21. In this connection, we note that before the introduction of A&E charge in November 2002, demand for EAS had been on a consistently upward trend. This trend was interrupted following the introduction of A&E charge. While the subsequent pattern was affected by the effect of the SARS, it seems that the A&E charge has somewhat depressed demand for EAS, and the current demand would have been higher if the charge had not been introduced.

22. The Government is conducting a new round of review on public medical fees with a view to targeting government subsidies to patients and services most in need, as well as redressing the imbalance between the public and private sectors. The review covers a range of service areas, including A&E services. If there were to be an increase in the A&E charge, it may help to reduce demand for EAS.

(a) EAS Charge

23. Separately, we may consider introducing a separate charge for EAS,

independent from that for A&E service. An EAS charge, with suitable waiver for the needy, should affect user behaviour by discouraging less necessary use of EAS. At this stage, EAS charge is one of the tentative options that we will be looking at. In considering the option, we will need to ensure that the provision of EAS continues to be accessible and affordable. We would need to ensure that no one would be denied EAS due to lack of means. We would also need to carefully consider impact on other members of the public. There can be different bases for charging, which would affect members of the public differently. These different charging methods include charging non-urgent cases only, charging all cases, charging non-residents only, etc. In connection with the option of charging non-urgent cases only, this would require a mechanism for determining which are such non-urgent cases. Accordingly, we plan to continue to look into the possibility of charging in conjunction with the study on the possibility of a Priority Dispatch System.

(b) Priority Dispatch System

24. Currently, ambulance calls are addressed on a next-in-queue basis. There is no mechanism to differentiate between those in urgent need of EAS and less urgent cases. Dispatch prioritization will enable categorisation of calls, and may enable more flexible and targeted use of resources. In view of this and in light of the overseas experience, FSD has commissioned a study on the feasibility of introducing a priority dispatch system for EAS. Subject to the findings of the study, and if it is decided to introduced a system for categorising calls, the categorisation could provide the basis for various demand management measures, such as -

- (i) differential target response times for different categories;
- (ii) charging, as discussed in paragraph 23 above; or
- (iii) differential services for different categories of calls, similar to the current Urgent Care Fleet for inter-hospital transfers discussed in paragraph 10 and 11 above.

The study is expected to be completed by September 2005.

Mode of Service Delivery of EAS

(a) Shift System

25. As discussed in paragraph 12 above, demand for EAS remains high in the early evening (from 8:00 p.m. to 11:00 p.m.), and it may be possible for FSD to adjust ambulance crew's shifts to correspond better to the pattern of demand. Possible options include -

- (i) retain the traditional day and night shifts, and continue with the staggered shift; or
- (ii) retain the traditional day and night shifts, and replace the staggered shift with swing shifts which operate from 7:00 a.m. to 3:00 p.m. and from 3:00 p.m. to 11:00 p.m. The swing shifts will directly address the peak demand periods without the need to increase resources during the overnight period when demand drops significantly.

FSD has been discussing options with staff and will continue to do so.

(b) Stopping EAS conveyance to preferred destination

26. At present, in some circumstances, FSD's ambulances convey a patient to a hospital requested by him, instead of the nearest HA hospital's A&E Department. In the first four months of 2005, there were over 2 800 such calls. Some of these calls are very time consuming as cross-district and even cross-region delivery of patients are not uncommon. Given that nowadays the medical staff at any A&E Department can retrieve the patients' medical record at public hospitals and Specialist Out-patient Clinics through HA's Clinical Management System, FSD plans to discontinue conveying a patient to the HA hospital preferred by him so that emergency ambulance resources can be put to better and more efficient use.

Way Forward

27. Our plan for the next few months is as follows -

- (i) FSD's priority task in the next few months is to stabilise the performance of TGMS in conjunction with the contractor concerned;
- (ii) At the same time we will consider additional resources for EAS through the Government's relevant resource allocation processes;
- (iii) We will complete the study on priority dispatch, and consider if we should introduce such a system and on the basis of such a system various demand management measures; and
- (iv) We will continue to explore ways to re-engineer current modes of service delivery.

In considering all options, the guiding principle is that we must continue to deliver accessible and quality EAS in a cost-effective manner. We will also fully engage staff and consult the public as appropriate.

Security Bureau
31 May 2005

**Report on the Third Generation Mobilizing System (TGMS)
in the initial phase of commissioning**

It is our plan to commission the TGMS by phases and the new system has started operation in the New Territories Fire Command (NTFC) since 1 March 2005. We have since been fine-tuning the system. Based on the results of the fine-tuning and in the light of practical experience gained in running the system in NTFC and staff response, we will decide on the timetable for commissioning the new system in the Hong Kong Island and Kowloon Fire Commands.

2. In the initial phase of commissioning, we have identified a number of teething problems of the new system and have taken remedial actions. We have reported details of the implementation of the new system to the Legislative Council on two occasions in response to the questions raised by Members at the meeting on 27 April 2005 and 11 May 2005 respectively.

3. To recap, there were 21 098 and 20 043 emergency ambulance calls in the New Territories in March and April respectively. Ambulance crews were able to arrive at the scenes within the 12-minute target response time in 17 022 and 17 393 calls respectively, representing 80.7% and 86.8% of the total number of calls. The average dispatch time was 4.7 and 2.3 minutes in March and April respectively.

4. The less than satisfactory dispatch time of the new system in March and April was largely attributable to the fact that some software and hardware of the system did not perform fully as expected in the initial stage of operation, and the relevant staff were not fully familiarized with the operation of the new system.

5. The Fire Services Department (FSD) has been working closely with the contractor to fine-tune the system. Given this, and as relevant staff gained more operational experience, substantial improvement to the situation has been made. We expect that there will be further improvement to the operation of the new system in the future.

6. If the operation continues to run smoothly, FSD anticipates that the new system would be implemented in the Hong Kong Island and Kowloon Fire Commands by the middle of this year.

Security Bureau
31 May 2005