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Panel on Security

**Background brief prepared by the Legislative Council Secretariat
for the meeting on 13 April 2010**

Proposed introduction of the Medical Priority Dispatch System

Purpose

This paper provides background information and summarizes discussions of the Panel on Security ("the Panel") on the Administration's proposal to introduce a Medical Priority Dispatch System ("MPDS") in Hong Kong.

Existing ambulance dispatch system

2. At present, the response time target of the emergency ambulance service ("EAS"), which applies to all calls, is 12 minutes. Irrespective of whether the patients' conditions are critical, the Fire Services Communications Centre ("FSCC") dispatches the nearest available ambulances to the scenes on a next-in-queue basis following the order the calls are taken. The existing ambulance dispatch system does not prioritize and handle calls in accordance with their degree of urgency.

Proposed introduction of the Medical Priority Dispatch System

3. According to information provided by the Administration in July 2009, advanced ambulance services in more than 20 countries have already adopted a priority dispatch system to prioritize their response to ambulance calls in accordance with their degree of urgency. The priority dispatch system helps differentiate the nature of sickness or injury and accords a quicker response to the more critical patients.

4. In July 2009, the Administration issued a consultation document for public consultation to seek views on the following proposals -

- (a) to pursue the implementation of MPDS to categorize and prioritize response to emergency ambulance calls in accordance with their degree of urgency;

- (b) to categorize emergency ambulance calls into three categories, namely "Response 1" calls for critical or life-threatening cases, "Response 2" calls for serious but non-life-threatening cases, and "Response 3" calls for non-acute cases;
- (c) to pledge for a better response time target for critical or life-threatening cases. Specifically, the Administration proposed to set the target response time at nine minutes for Response 1 calls, 12 minutes for Response 2 calls and 20 minutes for Response 3 calls; and
- (d) to maintain the current service pledge of achieving the new response time targets in 92.5% of the cases for all categories of calls.

The above proposals are summarized in the table below -

Response Level	Degree of Urgency	Target Response Time	Response Time Achievement
Response 1	Critical or life-threatening	9 minutes	92.5%
Response 2	Serious but non-life-threatening	12 minutes	92.5%
Response 3	Non-acute	20 minutes	92.5%

Deliberations of the Panel

5. The Administration briefed Members on its proposal for introducing MPDS at the Panel meeting on 6 July 2009. The major views and concerns raised by Members are summarized below.

Objective of the Government in proposing MPDS

6. Expressing concern about the reasons for introducing MPDS, some Members queried whether the ultimate objective of the Administration's introduction of MPDS was to pave way for imposing charges on EAS in the long run. These Members cautioned that as EAS was a matter of life and death to patients making ambulance calls, the Administration should be mindful of the knock-on effect of introducing MPDS in Hong Kong.

7. The Administration responded that it did not have plan to introduce charges on EAS in proposing the implementation of MPDS. The primary objective of proposing MPDS was to enhance the existing EAS by providing quicker response and better services to patients in greatest need. The Administration stressed that it was committed to providing effective and efficient EAS for all persons who needed to be conveyed to a hospital. Although the next-in-queue dispatch system was commonly used in most Asian countries and the performance of Hong Kong's existing ambulance service compared favourably with most overseas standards, the Administration noted that advanced ambulance services in over 20 countries had already adopted a priority dispatch system to

prioritize their response to ambulance calls in accordance with their degree of urgency. The Administration considered that there was scope for introducing MPDS in Hong Kong, with a view to facilitating priority response to critical or life-threatening cases. The Administration further advised that in examining the feasibility of introducing MPDS in Hong Kong, it had made reference to the good practices of advanced ambulance services overseas, including cities in Australia, Canada, the United Kingdom and the United States, which had adopted a priority dispatch system to categorize and handle calls in accordance with their degree of urgency. Most countries or cities adopted a response time target of eight to 10 minutes for the most critical cases, and a longer response time target for the non-acute calls.

8. Members were also concerned about the benefits of introducing MPDS in Hong Kong. They enquired about the expected number of people who could benefit from the new dispatch system.

9. In reply, the Administration advised that according to the findings of the consultancy study commissioned by the Fire Services Department ("FSD") on the implementation of MPDS, it was estimated that the patients' conditions in about 30% of incoming calls would be classified as critical or life-threatening (i.e. Response 1 calls). Since the response time target of Response 1 calls would be reduced from 12 minutes to nine minutes, the new dispatch system would provide speedier response to those patients in critical or life-threatening condition. The Administration informed Members that in 2008, FSD handled a total of around 9 600 suspected cases of cardiac arrests. According to some medical researches, the survival rate of such patients could be increased by 10% for every one-minute improvement in the provision of emergency treatment. If MPDS was implemented, patients suffering from heart attack or cardiac arrest could benefit from the three-minute improvement in EAS.

Alleged abuse of ambulance service

10. Some Members, while expressing support for the proposal to improve the response time of EAS, had reservations about the implementation of MPDS as a solution to problems identified with the existing dispatch system. Noting that there had been a substantial increase in demand for ambulance service over the years, these Members questioned whether ambulance service had been abused. They held the view that the Administration should critically examine how the existing resources could be better deployed and explore other possible measures to prevent abuse of ambulance service.

11. In response, the Administration emphasized that it attached much importance to the provision of quality ambulance service. Where necessary, it would allocate additional resources to FSD for service improvement. As a matter of fact, apart from increasing the provision of manpower for the ambulance service, FSD had earmarked resources in 2009-2010 for the replacement of 196 ambulances and the procurement of 21 additional ambulances. The Administration advised that in the light of the community's concern about the alleged abuse of EAS, FSD had commenced a sample survey in March 2009 to collect relevant information and data to better understand the problem of improper use of EAS. FSD had selected some 10 000 cases by random sampling from the ambulance calls

received in 2008 for examination. According to the findings of the survey, about 10% of the patients in the sampled cases did not require basic life support from ambulance personnel before they were taken to the Accident and Emergency Department ("A&E") of hospitals by ambulance. Their clinical features, medical histories, cause and course of sickness or injury and vital signs also indicated that the cases were non-critical. It was also found that these patients did not require A&E services after being taken to hospitals, nor did they require immediate referral to specialist clinics for further examination and treatment or in-patient admission. In other words, they did not have an obvious need to use EAS. Against this background, FSD would enhance public education and remind the public to make judicious use of EAS in future, so as to ensure that the ambulance resources could be used to achieve the maximum benefit.

Reliability of the MPDS questioning protocol and ability of Fire Services Communications Centre operators in assessing the degree of urgency of incoming calls

12. Noting that MPDS required FSCC operators to solicit essential information from the callers so as to assess the degree of urgency of each emergency ambulance call, some Members expressed concern about the reliability of the new system in ensuring operators' formation of infallible judgment, hence the effective prioritization of emergency dispatch services. They enquired whether the Administration would consider dividing incoming emergency ambulance calls into two, instead of three, response modes, viz "critical/life-threatening" cases justifying prompt and immediate attention against "non-urgent/non-acute" cases.

13. Some Members noted that under the proposed MPDS, callers would be asked a set of entry questions before ambulances were dispatched. They were particularly concerned whether the questions and answers would cause delay in the dispatch of ambulances and the provision of emergency treatment to patients. Some Members indicated that they would not support the Administration's proposal to introduce a priority dispatch system in Hong Kong. They took the view that instead of introducing MPDS, the Administration should review the current provision and adequacy of EAS and consider allocating more resources for such purpose, so as to enhance the overall response time performance of ambulance service.

14. In response, the Administration explained that under the proposed MPDS, incoming ambulance calls would be divided into three response modes. Response 1 calls, which would be handled with priority, were those involving patients in critical or life-threatening conditions, such as a person having a heart attack or someone who was unconscious. The Administration proposed to set the target response time at nine minutes in order to provide quicker response to these patients and enhance their chance of survival and recovery. Serious but non-life-threatening cases would be categorized as Response 2 calls and the response time target would be maintained at 12 minutes. Non-acute cases would be categorized as Response 3 calls with a response time target of 20 minutes. While the MPDS questioning protocol was designed to identify a potentially life-threatening situation readily, the most obvious and critical cases could be identified as early as the third entry question and an ambulance would be dispatched immediately. According to overseas experience, it would only take around 15 to 20 seconds on average for the

operator to ascertain the condition of a patient and assign the appropriate ambulance response.

15. The Administration further advised that the MPDS questioning protocol was based on a clinically supported framework endorsed by the International Academy of Emergency Dispatch. The questions would be phrased in simple and laymen language and mainly close-ended. To ensure that the questions were effective and easy to understand, FSD would seek the advice of medical experts from relevant fields to fine-tune the wording before implementation. The Administration emphasized that in the event that the caller was not able to give clear or specific responses to the protocol questions, FSCC operators would adhere strictly to the overriding principle of "if in doubt, dispatch immediately". In other words, FSCC operators would choose to err on the safe side, classify an uncertain call as a Response 1 call, and send an ambulance to the scene as soon as possible.

16. Regarding the protocol questions under the proposed MPDS, some Members opined that instead of adopting questions directly from overseas ambulance services, the Administration should modify the questions to suit the local culture and language environment. Members also sought information on overseas experiences in practising the priority dispatch system, in particular the accuracy of their operators in assessing the degree of urgency of incoming calls.

17. In response, the Administration advised that if MPDS was implemented in Hong Kong, FSD would conduct tender exercises for the procurement of software protocol and hardware. The questioning protocol would need to be modified to suit the local culture and language environment. The Administration further advised that in the past few years, it had explored several possible measures, including the introduction of MPDS, for continuous improvement in EAS. According to the findings of the consultancy study on the feasibility of introducing MPDS, the performance of similar priority dispatch systems adopted by advanced ambulance services overseas was reliable. Notwithstanding this, the Administration recognized that further fine-tuning and validations would be required before it could be adopted for use locally.

Pressure faced by Fire Services Communications Centre operators

18. Some Members were also concerned about the work pressure on the part of FSCC operators, if MPDS was implemented. They asked whether the Administration had assessed the new pressure faced by FSCC operators, and whether any measures were in place to address the issue.

19. According to the Administration, if the introduction of MPDS was supported by the public, the Government would need two to three years to carry out the preparatory work, including public education, staff training, and system installation and testing. Hence, the new dispatch system would at the earliest be implemented in 2012. Under the proposed MPDS, whilst the ambulance was travelling on the road to the patient, the operator would continue to ask the caller a few more questions to obtain additional specific details about the sickness or injury, which would be relayed to the ambulance crew en-route to better

prepare them for the emergency service required. The new system would henceforth allow ambulancemen to make more effective use of their professional skills and enable critical patients to receive timely professional pre-hospital medical treatment at the scene and during emergency transport to a hospital. To cater for the enhanced work requirement on staff members of FSD, the Administration would allocate additional resources to FSD where necessary. In addition, sufficient training would be provided to FSD staff to ensure the provision of quality service for the public upon the introduction of the new dispatch system. Every FSCC staff would have to undergo and pass the Emergency Medical Dispatcher Certification Course and be re-certified every two years. Frontline ambulance crew would also receive training to help them appreciate the improved mechanism of reassigning ambulances.

Latest developments

20. On 3 July 2009, the Administration launched a four-month public consultation on the proposed MPDS. According to a press release issued by the Administration in November 2009, the Government had received about 400 written submissions from organizations and individuals by the end of the consultation on 3 November 2009. The Administration undertook to report the result to the Panel in early 2010 upon completion of the analysis on views received during the consultation period.

21. To facilitate a better understanding of the operation of the proposed MPDS, the Administration had arranged a visit for Members to the Headquarters of FSD on 18 January 2010 to observe the workflow of FSCC and to receive a briefing on MPDS. During the visit, Members have sought information on some issues. The Administration's response is still awaited.

Relevant papers

22. Members are invited to access the Legislative Council's website at <http://www.legco.gov.hk> to view the papers for and minutes of the Panel meeting on 6 July 2009.