

**For discussion
15 February 2019**

Legislative Council Panel on Security

**An Update on the Implementation of Post-dispatch Advice
by the Fire Services Department**

INTRODUCTION

This paper briefs Members on the latest progress of the provision of post-dispatch advice (PDA) by the Fire Services Department (FSD) to emergency ambulance service (EAS) callers.

POST-DISPATCH ADVICE

2. FSD is responsible for the provision of firefighting, rescue and emergency ambulance services. The Fire Services Communications Centre (FSCC), manned round-the-clock, mobilises all firefighting and ambulance resources to provide timely fire and ambulance services to the community. As far as calls for EAS are concerned, FSD handled a total of 748 777 EAS calls in 2018.

3. Traditionally, when handling EAS calls, the FSCC operators' primary focus is on the efficient dispatch of ambulances or relevant resources to attend to the needs of the callers. To enhance its EAS, FSD has gradually enabled FSCC operators to provide simple PDA to EAS callers in respect of six common types of injuries and sicknesses, namely bleeding, burns, fracture/dislocation of limbs, convulsion, heat exposure and hypothermia. To take forward the provision of simple PDA, FSCC operators underwent training on providing simple PDA to EAS callers.

4. In view of the favourable response from implementing the simple PDA service and with reference to the international trends in improving EAS, FSD has developed and put in place a new computer system to assist FSCC operators to, after dispatching ambulances, provide callers with immediate, comprehensive and appropriate PDA on 32 types of injuries and sicknesses, including physical trauma, loss of consciousness and cardiac arrest (full list at **Annex**). The questioning protocols used in the computer system were

developed by the International Academies of Emergency Dispatch (IAED)¹ and have been in wide application. At present, similar computer systems and corresponding protocols have been adopted by some 3 000 mobilising centres of emergency services in more than 40 countries/regions (including a number of Mainland cities as well as the United States, Canada, the United Kingdom, France, Italy, Germany, Australia, New Zealand and Malaysia).

5. To ensure no delay in rescue and with the aid of the computer system, the dispatch of ambulances and the provision of PDA are handled by two individual operators, one being the “call-taker” and the other “dispatcher”. Once a call-taker confirms the location of an incident and the nature of a call, ambulance resources will be immediately dispatched to the scene. The call-taker will continue to be in dialogue with the EAS caller on the phone and raise a set of pre-structured questions according to the aforementioned questioning protocols to ascertain the patient’s conditions and give appropriate PDA for the patient. At the same time, the dispatcher will continue to monitor the resources dispatched and provide instant follow-up (including determining whether additional ambulance vehicles are required at the scene having regard to the condition of the patient(s) concerned).

6. To ensure the quality of the PDA service, FSCC operators are required to receive dedicated training and hold valid Emergency Medical Dispatcher (EMD) Certificates before they are authorised to render PDA to the public. The EMD qualification is subject to re-certification every two years. Currently, all FSCC operators (around 250 in total) have undergone the relevant trainings and obtained the EMD qualifications. FSD will also provide the EMD training for newly recruited FSCC operators.

7. For a quality provision of the PDA service, FSD formed a Quality Improvement Unit (QIU) in August 2018 to carry out audit checks of EAS calls with PDA provided. The audit checks are conducted on a daily basis to ensure that FSCC operators have strictly followed the questioning protocols (see paragraph 5 above). In addition, the QIU will study the caller’s emotions during the audit checks for assessing the effectiveness of the PDA service in relieving emotional distress of patients and callers. Based on the audit check results, the QIU, in collaboration with FSD’s Medical Director, will review the questioning protocols from time to time, consolidate experience in providing PDA and share the best practices among FSCC operators, as well as recommend appropriate revisions to the questioning protocols to cater for the needs of the local culture and language environment.

¹ The IAED is a non-profit standard-setting organisation that promotes safe and effective emergency dispatch services worldwide. Its status as a standard-bearer in the field is recognised by professional organisations such as the American Heart Association, the American College of Emergency Physicians and the American Medical Association.

IMPLEMENTATION AND BENEFITS ACHIEVED

8. PDA is simple and easy to follow. In contrast to cases without PDA, the callers provided with PDA can be given timely and appropriate first-aid advice before the arrival of ambulance crew, which will help stabilise the patients' conditions and prevent further deterioration so as to increase survival rates. Receiving immediate advice is of paramount importance, especially for those in critical condition. PDA can also help reduce the risk of inadvertent mishandling of patients before the arrival of the ambulance, and alleviate any anxiety or distress of patients and callers.

9. The enhanced provision of PDA service was fully commissioned on 4 October 2018. From 4 October 2018 to 31 December 2018, FSD provided PDA for over 133 600 EAS calls, which accounted for 83.8% of all EAS calls received during the aforesaid period.

10. The five most common types of conditions of patients where PDA was provided are "sick persons (general sickness such as diarrhoea, dizziness, etc.)", "falls", "breathing problems", "chest pain/chest discomfort" and "haemorrhage/laceration". These calls account for 70.8% of all EAS calls with PDA given. Among the remaining EAS calls, PDA was given to around 2 000 callers where the patient was under potentially life-threatening situations, including "cardiac or respiratory arrest/death", "choking" as well as "pregnancy/childbirth/miscarriage". The respective numbers of EAS calls with PDA given for the various types of conditions are as follows –

Condition of Patient	Number of EAS calls with PDA given (%)
Sick Persons (general sickness such as diarrhoea, dizziness, etc.)	47 660 (35.7%)
Falls	16 154 (12.1%)
Breathing Problems	15 817 (11.8%)
Chest Pain/Chest Discomfort	8 248 (6.2%)
Haemorrhage/Laceration	6 759 (5.0%)
Others	38 994 (29.2%)
Total	133 632 (100%)

11. While it is encouraging that over 80% of the EAS callers are receptive to PDA, FSD has also looked into the reasons behind those EAS calls with no PDA provided. In some cases, the EAS callers may be a "third" or "fourth" party caller, who are not at the incident scene and thus are unable

to assist the patient direct with PDA. In some other cases, the patient has already been provided with assistance and hence the provision of PDA is no longer necessary. Some callers may also lack the confidence in following PDA to assist the patients, particularly if they are in panic or distress.

12. To make the best use of PDA, it is vital that the EAS callers are confident to help and willing to follow the instructions of the FSCC operators. FSCC operators have been well-trained and are proficient in caller management and telecommunications techniques which can calm the EAS callers and encourage them to take care of the patients. For instance, the FSCC operators will show empathy to emotional callers and adopt an assertive yet friendly manner throughout the call such that the EAS callers find the operator trustworthy. With the emotions of the EAS callers eased, they can effectively help stabilise the conditions of the patients based on step-by-step PDA provided by FSCC operators.²

WAY FORWARD

13. Since the PDA computer system was fully commissioned in October 2018, the experience gained over the last five months has been encouraging. More and more EAS callers are willing to receive and act on PDA provided by FSCC operators.

14. In October 2018, FSD rolled out a new Announcement in the Public Interest on television and radio under the theme of “Follow Advice, Save a Life” to publicise the enhanced PDA service. FSD will step up its publicity efforts in promoting the PDA service to members of the public.

15. To tie in with the full commissioning of the enhanced PDA service, 18 additional operator posts were created for the FSCC. FSD will closely monitor the implementation of PDA, and review the manpower requirements from time to time for maintaining the operational efficiency of the FSCC. The QIU will continue to perform daily random audits of the calls handled by the FSCC to ensure the accurate delivery of PDA in compliance with the

² Indeed, there were cases from time to time where PDA had proven extremely helpful during life-threatening situations. For example in October 2018, an FSCC operator gave PDA on childbirth to a male caller and his wife. Despite the rather chaotic situation where the wife gave birth to a baby unexpectedly, through the step-by-step delivery of professional instructions, the FSCC operator gradually calmed the couple and guided the male caller to take proper care of his wife and the baby before the arrival of ambulance crew.

In another case in November 2018, PDA on cardiopulmonary resuscitation (CPR) was provided to help a male adult who suffered sudden cardiac and respiratory arrest. The FSCC operator gave CPR instructions to the caller, who had no first-aid knowledge, and guided her to apply CPR on the patient for 5 minutes before the arrival of ambulance crew. Upon arrival of the ambulance crew, a shock by an Automated External Defibrillator was applied to the patient and his circulation eventually resumed normal whilst being conveyed to hospital by ambulance.

questioning protocols. The data and experiences consolidated from implementing the provision of PDA will facilitate FSD's review and long-term planning of strategies and ambulance deployment, with a view to providing better EAS to the public.

Security Bureau
Fire Services Department
February 2019

**Conditions of injuries and sicknesses covered
under FSD's PDA service**

1. Abdominal pain/problems
2. Allergies (reactions)/envenomations (stings, bites)
3. Animal bites/attacks
4. Assault/sexual assault/stun gun
5. Back pain (non-traumatic or non-recent trauma)
6. Breathing problems
7. Burns (scalds)/explosion
8. Carbon monoxide/inhalation/hazmat/Chemical, Biological, Radiological and Nuclear substance
9. Cardiac or respiratory arrest/death
10. Chest pain/chest discomfort (non-traumatic)
11. Choking
12. Convulsions/seizures
13. Diabetic problems
14. Drowning /near drowning/diving/scuba accident
15. Electrocutation/lightning
16. Eye problems/injuries
17. Falls
18. Headache
19. Heart problems/Automatic Implanted (internal) Cardiac Defibrillator
20. Heat/cold exposure
21. Hemorrhage/lacerations
22. Inaccessible incident/other entrapments (non-traffic)
23. Overdose/poisoning (ingestion)
24. Pregnancy/childbirth/miscarriage
25. Psychiatric/abnormal behaviors/suicidal tendencies
26. Sick Person (specific diagnosis)
27. Stab/gunshot/penetrating trauma
28. Stroke /Transient Ischemic Attack
29. Traffic/transportation incidents
30. Traumatic injuries (specific)
31. Unconscious/fainting
32. Unknown problem