

For information

Legislative Council Panel on Security Further Development of Paramedic Ambulance Service

Introduction

This paper informs Members of the progress of the development of paramedic ambulance service (PAS) in Hong Kong.

Background

2. At the Panel meeting on 6 February 2001, Members were briefed on the progress of the review conducted by Fire Services Department (FSD) on the development of PAS in Hong Kong. A subsequent paper issued in March 2001 provided an assessment by the FSD that the implementation period for full provision of PAS could be shortened to a minimum of three years. Members were also informed that FSD had commissioned a consultancy firm 'Crow Maunsell Management Consultants Ltd' to carry out a comprehensive study on the further development of PAS in Hong Kong. The study has now been completed.

Consultancy Study

3. A copy of the Executive Summary of the Consultancy Report is at **Annex** for Members' reference. After thorough study, the Consultant has proposed a number of recommendations to achieve the target of the provision of paramedic care on all ambulances in three years and to further develop the service in the longer term. These are summarised as follows –

- (a) Implement the full provision of PAS by training more than 500 EMA II* paramedics by April 2005.

* 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 at a pre-hospital setting. Paramedic training for EMA II includes intravenous infusion, defibrillation and use of selected drugs.

- (b) Secure an advanced allocation of ambulance officer and ambulanceman posts to enable release of trainers and trainees from normal operational duties.
- (c) Provide for greater involvement of the Medical Directors to provide professional medical advice on paramedic training and PAS provision.
- (d) Increase the training capacity of the Fire Services Ambulance Command Training School (FSACTS) at Ma On Shan to meet the EMA II training needs by carrying out temporary alterations to FSACTS and utilising the Fire Services Training School at Pat Heung for recruit training in the short term, and building an extension to FSACTS to accommodate all training activities of the Ambulance Command in the long run.
- (e) Seek approval of the permanent status of the EMA II special allowance for Senior Ambulanceman and Principal Ambulancemen and its extension to qualified Ambulancemen.
- (f) Establish a Quality Assurance team for auditing all paramedics.
- (g) Continue to develop the clinical skills of paramedics beyond the EMA II level and incorporate some additional training into the recertification process to further advance the cognitive and psychomotor skills of the EMA II staff.

4. In the light of the planned provision of full PAS, the consultant has also made a number of recommendations on the further development of the FSD's Emergency Ambulance Service in general, in such areas as staff and vehicle establishment, human resources, training, deployment, mobilisation, use of technology etc.

5. The Consultancy was undertaken in close consultation with an Ambulance Services Review Steering Group comprising representatives of the Security Bureau, the Health and Welfare Bureau, the Department of Health, the Hospital Authority and FSD. The Steering Group has studied the findings and recommendations and agreed on an implementation plan taking into account the resources available and the prevailing policy, with immediate priority given to transition to full provision of PAS in three years' time.

Way Forward

6. FSD will take forward the implementation plan in close collaboration with all parties concerned with a view to achieving full provision of PAS by end 2004-5. Regarding further development which may have substantial financial implications, FSD will consider appropriate measures to ensure cost-effectiveness and, if necessary, seek additional resources in the normal manner.

Security Bureau
January 2002

Executive Summary

**Full
Provision
of
Paramedic
Ambulance
Services
for
Hong Kong**

Fire Services Department

EXECUTIVE SUMMARY

PROJECT TEAM

Crow Maunsell, a local management consultancy organisation, were commissioned in March 2001 by the Fire Services Department (FSD) to examine the implications of providing paramedic care on all its ambulances.

In performing this work, Crow Maunsell were supported by Mr Greg Sassella and Mr Ian Patrick of Melbourne Metropolitan Ambulance Services and Mr Daniel R Gerard, MS, RN, EMT-P of George Washington University.

OBJECTIVES AND BACKGROUND

The primary purpose of this Study was to examine the implications, manpower plan and resource requirements for providing paramedic care on all ambulances in Hong Kong

FSD is committed to developing a Paramedic Ambulance Service (PAS) which shall be best able to meet the needs of Hong Kong.

Specific objectives of the Study were to:

- assess the implications and resource requirements in providing PAS on all ambulances
- formulate and recommend a detailed implementation plan for the provision of a full and comprehensive PAS taking into account all relevant factors and constraints and covering staff resources, their competencies, training needs, equipment, accommodation, logistic support, procedures and information systems.

The Crow Maunsell Team interacted closely with FSD, the Hospital Authority (HA) and Representatives of the Security Bureau in order to obtain input and concurrence as to the appropriate strategies and approach for Hong Kong. This was in addition to meeting with Representatives of the Hong Kong Fire Services Department Ambulance Officer's Association and the Hong Kong Fire Services Department Ambulancemen's Union.

APPROACH

This Study involved extensive consultation between the staff of FSD and the Consultants. The Consultant Team included three overseas professional paramedics. Two were senior managers from Melbourne's Metropolitan Ambulance Services and the other an experienced EMS (Emergency Medical Services) specialist from New Jersey. These specialist advisors developed a close rapport with staff from FSD which enabled quick progress on this highly complex Study. In respect of the clinical aspects of the Study, the consultation involved the Medical Director and extended to members of the Pre-Hospital Care Sub-Committee of the Hospital Authority.

The Study entailed a detailed analysis of call data. FSD provided detailed information on the Call Data for the whole of 2000. This provided a sample size of around 520,000 calls and spanned all four seasons. A database was developed and a comprehensive statistical analysis completed, which in turn provided a foundation for the development of a new computer driven, resource planning model.

Detailed activities carried out included:

- Identifying and reviewing options for the PAS - Staffing, Systems, Logistics, Management, Outsourcing and investigating Alternative Service Strategies
- Analysing emergency call data and alternative PAS standards
- Investigating the implications of Specialist Teams
- Assessing the need for support from Medical Professionals
- Analysing Competencies of Paramedics and local Ambulancemen
- Benchmarking local PAS standards
- Identifying the means of developing the overall Competency of Paramedics and Ambulancemen
- Formulating a Training Program
- Investigating the resources needed to establish a training facility for training Paramedics
- Recommending a Quality Assurance Program and Customer Services Scheme
- Formulating Proposals for Recognition of Paramedics
- Developing a Resource Planning Model
- Establishing the Manning Requirements allowing for population growth and changing assumptions in respect of Demand.

FINDINGS

The Study highlighted the resource constraint problem facing FSD. Their overriding operational objective - which has proven very difficult in the face of mounting demand not only for PAS Calls but also for all Emergency Calls - is to achieve 12-minute response time for at least 92.5% of its Emergency Calls.

Although, better demand management (such as, in the short term, establishing a Customer Services and Relations Group to educate the public on proper use of emergency ambulance service, and in the longer term, introducing some form of charging for ambulance or Accident and Emergency (A&E) services) may help in alleviating this problem, more ambulance shifts and more ambulancemen are urgently required to cope with immediate needs. These must be secured. Without addressing overall resource deficiencies, any redeployment of ambulance supervisors to EMA II Training will exasperate current response performance and mismatching. *(Note: EMA II is a classification of Justice Institute of British Columbia for ambulance personnel able to provide advanced pre-hospital care.)*

The FSD's internal report "PAS Review 2000" recommended accelerated training of EMA II paramedics as a way of reducing the mismatch of EMA II calls to EMA II capability. FSD estimated that it needed to train more than 500 staff to EMA II in order to roster a minimum of one EMA II paramedic per ambulance. The rate of training required to achieve to train 500 staff under three years would create unreasonable pressure on the current ambulance services in the areas of response times, crew configurations, overtime expenditure and capacity to accommodate students during training.

With the resources needed for these initiatives in place, FSD would be in a good position to progress its plans for introduction of the full PAS and introduce some further improvements to its current practice that in total will provide for a stepped improvement in FSD's service to the Community. By adopting a strategic approach to achieving their various goals, FSD will position itself well for the future including addressing the surging demands for its services while maintaining its commitment to the quality and timeliness of its services.

With FSD facing other challenges, their achieving the transition to a full PAS within a three-year period will be challenging.

Acceleration of this three year period is not practical as alternative measures needed will have lead times that will delay the initiation of the transition and therefore the time by which the full PAS will be achieved.

By way of example – additional training facilities would be needed for a higher throughput. The recommended strategy assumes that all EMA II training will be provided at Fire Services Ambulance Command

Training School at Ma On Shan (FSACTS) by temporarily relocating all other FSACTS training to the Fire Services Training School at Pat Heung (FSTS). Any increase in the EMA II training sessions will mean that the FSACTS cannot be used and a new venue for the EMA II training will be needed with the associated lead time in securing and then establishing such a facility.

Other constraints include the number of officers qualified to lead the EMA II training programme, as well as additional ambulancemen to fill shifts while trainees are attending the training courses.

By adopting a three years program as providing an appropriate window for achieving the PAS initiative, it is important to bring forward the necessary recruitment for the increase in ambulance resources needed to meet the actual and projected growth in the number of Emergency Calls. With more ambulances, additional Supervisor posts are also needed to ensure the availability of appropriate crew for both EMA II Ambulances and the Ambulance Aid Motor Cycle.

Other initiatives cannot be forgotten. Strengthening of the Ambulance Command is needed in respect of increased involvement of the Medical Director, additional EMA II Trainers at Officer Level, an expanded Quality Assurance Team, a new Customer Services and Relations Team, the addition of Management Information System (MIS) with clinical information system functionality, greater involvement in the development of the Third Generation Mobilising System of FSD (TGMS), and preparation for improved call taking and dispatch once the TGMS is in place.

RECOMMENDATIONS

Increased Establishment

With the projected growth in calls, provide a further 29 ambulances by April 2002 and an additional 10 ambulances by April 2003.

Provide further or replacement Ambulance Depots – 13 by 2006 and an additional three by 2011.

Transition to Full PAS

Implement the full provision of PAS as soon as possible by training more than 500 paramedics by April 2005.

Recruitment to Meet Accelerated PAS Upgrade Training

Secure an advanced allocation of officer and ambulanceman posts to enable release of trainers and trainees respectively.

Retain this advanced allocation beyond the completion of the EMA II training program to enable the release of EMA II qualified personnel to complete their ongoing Continuing Medical Education (CME), and the necessary triennial re-certification, as well as EMA I Training and the EMA I Training Update. *(Note: EMA I is a classification of Justice Institute of British Columbia for ambulance personnel able to provide basic pre-hospital care.)*

The Medical Director

Ensure that the Medical Director has a major role in the development and delivery of the EMA II programs and develops protocols for clinical care, triage and audit for the EMA II programs.

Increase the involvement of the Medical Director by the equivalent of two half-time Medical Directors from January 2002 and by the equivalent of three half-time Medical Directors from April 2003.

Quality Assurance Team

Establish a QA Team.

Establish a profiling approach for auditing all paramedics.

Introduce electronic data collection and analysis in real time mode.

Customer Services and Relations Team

Establish a dedicated unit with responsibility for customer services and relations.

Human Resources Issues

Recruit and select new ambulancemen on the basis of criteria that are most relevant to the new PAS.

Seek approval of the permanent status of the EMA II special allowance for Senior Ambulanceman and Principal Ambulancemen and its extension to qualified Ambulancemen.

Special Operations Teams

Introduce critical care transport teams for inter-hospital transports of critically ill and injured patients such as cardiac, burns, neonatal, pediatric, and trauma.

Introduce emergency response teams to handle treatment of patients exposed to hazardous materials, injuries from building collapses and confined space.

Training

Continue to develop clinical skills of paramedics beyond EMA II level.

Collect clinical and operational data. Analyze the data to determine training needs and community health needs.

Enhance patient care by expanding the EMA II programs to improve the clinical judgment of the paramedics.

Incorporate some additional training into the recertification process to further advance cognitive and psychomotor skills of the EMA II staff.

Enhance the ambulancemen's initial training to include basic protocols that better address patient's needs.

Provide training for the HAZMAT (Hazardous Materials) and critical care transport teams. Assess the unique needs of these teams in respect of their CME and competency assessment and develop programs to meet those needs.

Identify the specific needs of frontline officers for continuing management training.

Develop a five-year strategic plan specific to training and education.

Ambulance Command Training School (FSACTS)

Increase the capacity of the FSACTS to meet the EMA II training needs.

Adopt innovative training methods in line with international best practice.

Commence as soon as practicable the project for extending the FSACTS at Ma On Shan.

Deployment

Review current deployment to address the heavy utilization in individual depots.

Investigate introducing a staggered day shift for some depots for heavy demand through to midnight.

Investigate introducing flexible Day/Night configurations for some depots for high ratio between night calls and day calls.

Investigate introducing swing shift and a dedicated fleet to address Urgent Calls.

Mobilisation

Improve the efficiency and effectiveness of Console Operators by providing training specific to emergency medical dispatch and by developing their capability to adopt a structured call taking process. Introduce pre-arrival instructions.

In the longer term, introduce priority dispatch grading patient needs in line with available paramedic skills.

Adopt protocols that will best support the PAS.

Technology

Collect response information and clinical and quality assurance data electronically.

Develop and implement an Ambulance Service Management Information System.

Investigate upgrading radio communications to support bi-directional communications between ambulance crew and HA's A&E staff.