“ALS at Altitude” Emergency Care Curriculum Relevance to Safe Aero-Medical Practice

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Overview

Technical relevance

Human resources for Health

Contextual relevance
Aeromedical response, rescue and transport have been part of Emergency Medical Services in South Africa since the inception of EMS.

In South Africa paramedic emergency care education and training includes aspects of altitude medicine.

Flight Medical Attendant (FMA) training courses are available for both intermediate and advanced life support practitioners.
Challenges Faced

The aeromedical environment presents unique challenges to the patient and crew

- The curricula on altitude medicine and the FMA training is not nationally standardised
- There are no regulations governing aeromedical medical or rescue training
- There are no specific requirements guiding the content, duration and practical exposure required.
International

- **USA**
  - Air Medical Crew National Standard Curriculum developed by the Department of Transport
- **UK**
  - Clinical Considerations in Aeromedical Transport (CCAT)
  - Helicopter Medical Flight Crew (HMFC)
  - Medical Emergencies in Flight (MEF)
- **NZ**
  - University of Otago offers online theory course
USA DOT Aeromedical Curriculum

- Flight Physiology
- EMS
  - Disaster Planning
  - Identification, assessment and triage
  - Communications
- Search & Rescue
- Hazardous Materials
- Equipment
  - Aviation
  - Medical
USA DOT Aeromedical Curriculum

- Policies and Procedures
  - Infection control
  - Operational Policies
- Pre and Inflight Considerations for Patient Care
  - Neuro
  - CVS
  - Resp
  - Trauma
  - Obs & Neonates
  - Paeds
PG Diploma in Aeromedical Retrieval and Transport (Otago, NZ)

- Aviation Physiology
- Air crew health and performance
- Airport and travel health
- Clinical aviation medicine
- Principles of occupational medicine
- Clinical occupational medicine
- Medical logistics in aeromedical transport
- Aeromedical studies for nurses and paramedics
- Clinical analysis of aeromedical retrieval and transport
- Clinical care in the air
- Organisation of aeromedical systems
- Managing occupational medicine
- Health and industry
- Research methods
- Research project and dissertation
Where and how does EMS/ aeromedical Education fit?
Qualifications in South Africa

- Basic Ambulance Assistant
- Ambulance Emergency Assistant
- Critical Care Assistant (Paramedic)
- 2 year Certificate Emergency Care
- 3 year Diploma Emergency Medical Care (Paramedic)
- 1 year B Tech Emergency Medical Care
- 4 year Bachelors Emergency Medical Care
Aeromedical Principles Embedded in the Curriculum

- Paramedic + FMA = Flight Paramedic
- Doctor + FMA = Flight Doctor
- Nurse + FMA = Flight Nurse

OR

- Emergency Care Practitioner
- Emergency Physician
- Trauma Emergency Nurse

OR PG Diploma in Aeromedicine

“FMA” included in the curriculum
Broad overview of post-apartheid education in SA

- Two-fold challenge of educational reform in SA:
  - post-apartheid challenge of social justice and transformation
  - Participation in a global village

- Best sustainable route to social justice is through high knowledge and skills.
PRINCIPLES of EDUCATION
(National Curriculum Statement)

- Social transformation
- Outcomes-based education
- High knowledge and skills
- Integration and applied competence
- Progression
- Articulation and portability
- Human rights, inclusivity, environmental and social justice
- Valuing indigenous knowledge systems
- Credibility, quality and efficiency

How does this compare with Aero-medical system needs in the developing world context?
Critical and Developmental Outcomes

- Solve problems
- Work with others
- Manage self
- Communicate clearly
- Use Science and technology
- Understand world as set of related systems
- Strategies to learn
- Citizenship
- Cultural and aesthetically sensitive
- Education and career opportunities
- Entrepreneurial opportunities
Qualifications and Quality in SA

- South Africa has adopted a National Qualifications Framework (NQF) implemented by the South African Qualifications Authority (SAQA).
- Comprehensive: all levels, all sectors in one framework.
- Outcomes-led: outcomes, prescribed outside of learning programmes, provide the basis for curriculum design, assessment, and evaluation.
- Outcomes are ‘standards’
- Standards serve as ‘quality criteria’
• Create and show pathways, ensure communication amongst qualifications and institutions (Scotland, Ireland, Australia)
• Shape qualifications and regulate how they relate to each other
• Drive educational reform and provision, contribute to social and economic development (SA NQF, NZ NQF)
Quality Assurance of EMC qualifications

Two Councils responsible for Quality Assurance

- For HE: Higher Education Quality Committee (HEQC) a sub-committee of the Council on Higher Education.
- HPCSA, Professional Board for Emergency Care
Issues and Challenges in

SA Higher Education

- Transformation
- Governance
- Provision
- Access
- Quality
- Community Engagement

Aero-medical Industry

- Transformation
- Governance
- Provision
- Access
- Quality
- Community Engagement
Human resources for health in SA

DOH. (2011) Human Resources for Health South Africa 2030

People
- Number of professionals
- Attrition and migration
- Maldistribution
- Shortage of professionals
- Benchmarking with other countries
- Recruitment of foreign health professionals

Process
- Education, training and research
- Public Health Leadership
- Human Resource management
- Information and Planning
- Requirements for re-engineering
Some general challenges to education

In South Africa

- Dealing with legacies of separation and inequity at all levels.
- Changing the culture of teaching and learning
- Focus on outcomes-based education
- Tension between access, massification and quality.

In Aero-medical industry

- Poor skill and demographic representation
- From skills based assistants to professionalization
- From Rules-bound to participation and results driven
- Exclusivity versus value inclusivity
Conclusion

- EMS curriculum is relevant to aeromedical needs (exceeds USA standards) but to what extent it is responsive (specific satisfaction/relevance) is unclear in the light of immature feedback systems.
- The HR challenges are not solely the function of education.
- The aeromedical system has multiple sources of error/risk.
- The educational design must have legitimacy for the outcome to be considered legitimate.
- See the flight paramedic as a human resource for health rather than a civil aviation authority prerequisite.
Thank You