GTAC Analyse Assess Activate
Strategic & Technical Advisory
National Treasury
REPUBLIC OF SOUTH AFRICA

2021

Identifying Expenditure and Operational Inefficiencies In Emergency Medical Services Delivery in the Province of the Eastern Cape

STUDENT NAME: BONGANI JOHNNY AND SIPHOKAZI DUNGA

CLUSTER: HEALTH

PROVINCE: EASTERN CAPE

SAVINGS@WORK
GOVERNMENT SPENDING REVIEWS

1. Executive Summary

Emergency medical services is one of the critical health services programmes within provincial health services. Its main function is to respond and provide medical services in acute or life- threatening conditions or injuries.

In recent years the provision and delivery of these services has drawn much media and public scrutiny in the province ever since the South Human Rights Commission published its adverse and critical finding on the state of emergency medical services in the province in 2016. Consequently, the provincial health department has continuously claimed that this critical health programme is being prioritised in terms of budget allocations and organisation support so as to improve services accessibility and emergency response times especially across rural areas.

As of 2020/21 the Eastern Cape provincial health department spent close to R1.3 billion per year on emergency medical services compared to the R1 billion that was spent annually in 2016/17. This increase represents a nominal annual growth of 4 per cent which is the second lowest across all provinces but marginally higher than the Western Cape. However, both in absolute and per capita terms expenditure on EMS, the province remains comparatively high, being the third highest in the country.

The marginal growth in EMS expenditure in the province was consumed mostly by expenditure on the compensation of employees in the form of overtime and shift allowances for EMS officers. This translated into declining expenditures for EMS fleet operations and minimal or zero growth in building and capital expenditures at EMS base stations for the period. In contrast across all other provincial EMS programmes there were significant growths in fleet operations and EMS base stations expenditures.

The declining expenditure on EMS fleet operations in the province will most likely continue to adversely affect programme service delivery in the form of poor availability in operational vehicles, slow ambulance response times and non-availability of services to some rural communities. Poor expenditure on EMS fleet operations, EMS equipment, and infrastructure

at base stations also threatens the EC provincial health department's ability to comply with current EMS regulations, its EMS licensing conditions, and sector norms and standards.

The following are some of the interventions that would be needed to improve EMS programme performance in the province:

1. Strengthen and empower of programme managers and EMS station managers at district level to closely monitor operations and properly manage EMS personnel to ensure high levels of service performance and commitment whilst enforcing services accountability. The focus should be on strict monitoring and scheduling of EMS officers in order to limit excessive expenditure on overtime and abnormal shift allowances.

2. Constantly monitor the utilisation of the ambulance fleet to ensure acceptable emergency response times are adhered to is also critical.

3. Future programme budget should be reprioritised towards expenditure on EMS fleet operations and upgrading EMS base stations so minimise any deficiencies in infrastructure and EMS medical equipment, and this should be done in strict adherence to the current EMS regulations

4. Where possible existing contracts should be reviewed and renegotiated especially for aero medical services and security services which have been acknowledged to be costly.

CONTENTS

List of tables and figures

2. Introduction

Emergency Medical Services is one of the critical health services in provincial health departments. Its main function is to respond and provide medical services in acute or life-threatening conditions or injuries. In recent years the provision and delivery of these services has drawn much public scrutiny following the adverse findings in 2016 by the South African Human Rights on the state of the EC provincial Emergency Medical Services. Consequently, the programme in the province continues to be prioritised in terms of budget allocations. Currently the Eastern Cape provincial health department spends close to R1.3 billion per year on EMS.

However, despite the increasing annual budget allocations the programme continues to experience significant challenges, including service inaccessibility and slow emergency response times, a shortage of properly qualified EMS staff, an insufficient number of provincial ambulance fleet, rising CoE expenditures including for overtime allowances, and high fuel and other pre-hospital services operational expenditures. This report will focus on key expenditure trends within the provincial EMS programme, identifying some of the main drivers of expenditure and service performance whilst also highlighting some of the underlying causes of inefficiencies in expenditure and performance.

3. EMS Policy and Institutional Framework

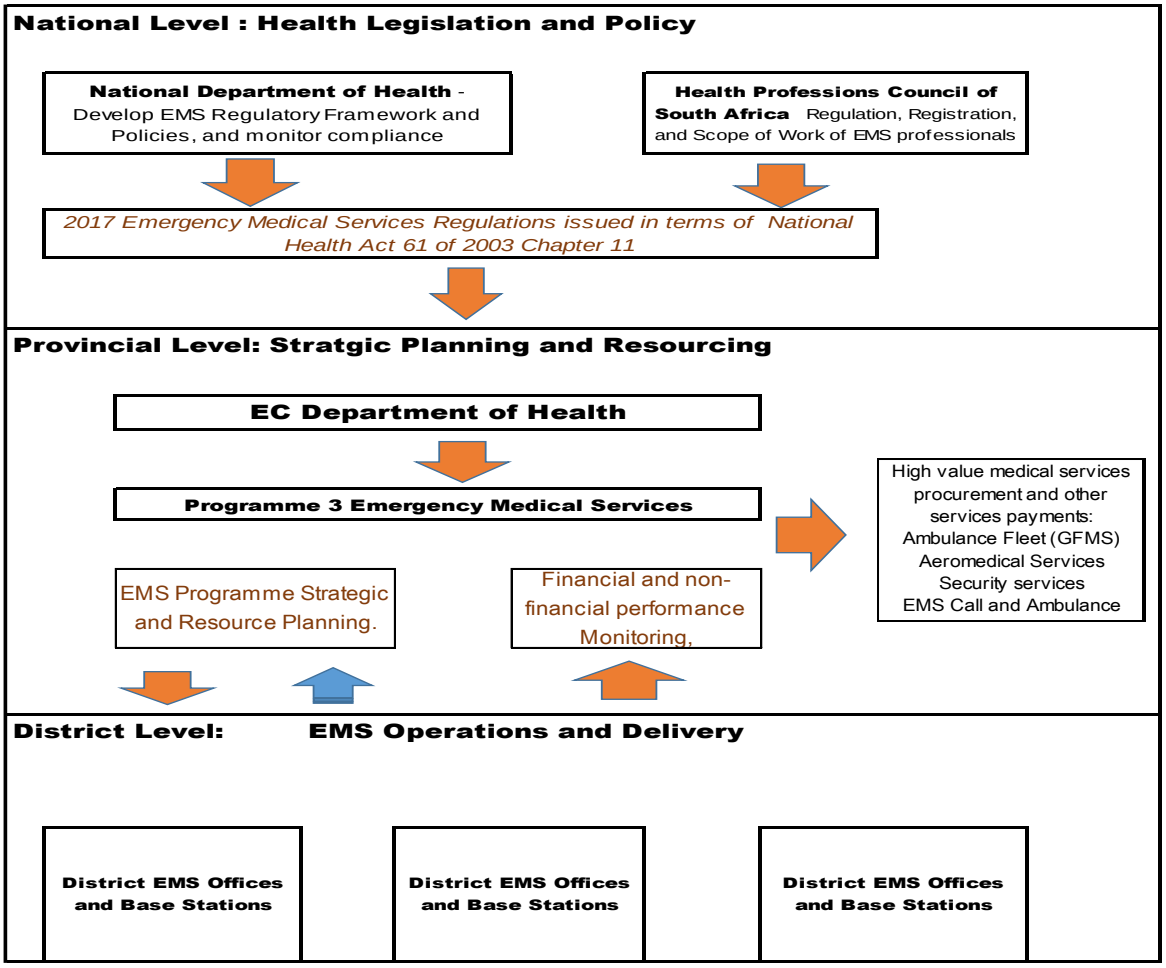
Section 27 (3) of the Constitution of South Africa establishes that no one should be denied emergency medical care. The Constitutional court has helped define what constitutes emergency medical treatment in the context of Section 27(3) of the South African Constitution. According to the Court (Soobramoney v Minister of Health, 1997), emergency medical treatment entails all medical treatments that are necessary in response to sudden catastrophic medical events which calls for immediate medical attention.

Furthermore, Section 25 of the National Health Act 61 of 2003 sets out the roles and responsibilities of provincial health departments in delivering emergency medical services. Specifically, the section specifies the core functions of provincial health departments to include among other things the provision and coordination of emergency medical services. Furthermore section 90 of this Act stipulates that the minister of health may in consultation with the National Health Council issue various regulations including regulations on emergency medical services and emergency medical treatment both within and outside of health establishments. Following an extended consultation process the regulations for EMS were

issued in 2017 setting out the norms and standards for EMS providers across both the public and private sector. These regulations focus mainly on the minimum norms and standards for EMS staffing and equipment.

In terms of qualifications and scope of work for emergency medical officers these are regulated by the **EMS Clinical practice guidelines (HPCSA)**. These represent sector policy guidelines that serve to regulate the registration and qualifications of Emergency Care Officers (ECOs).

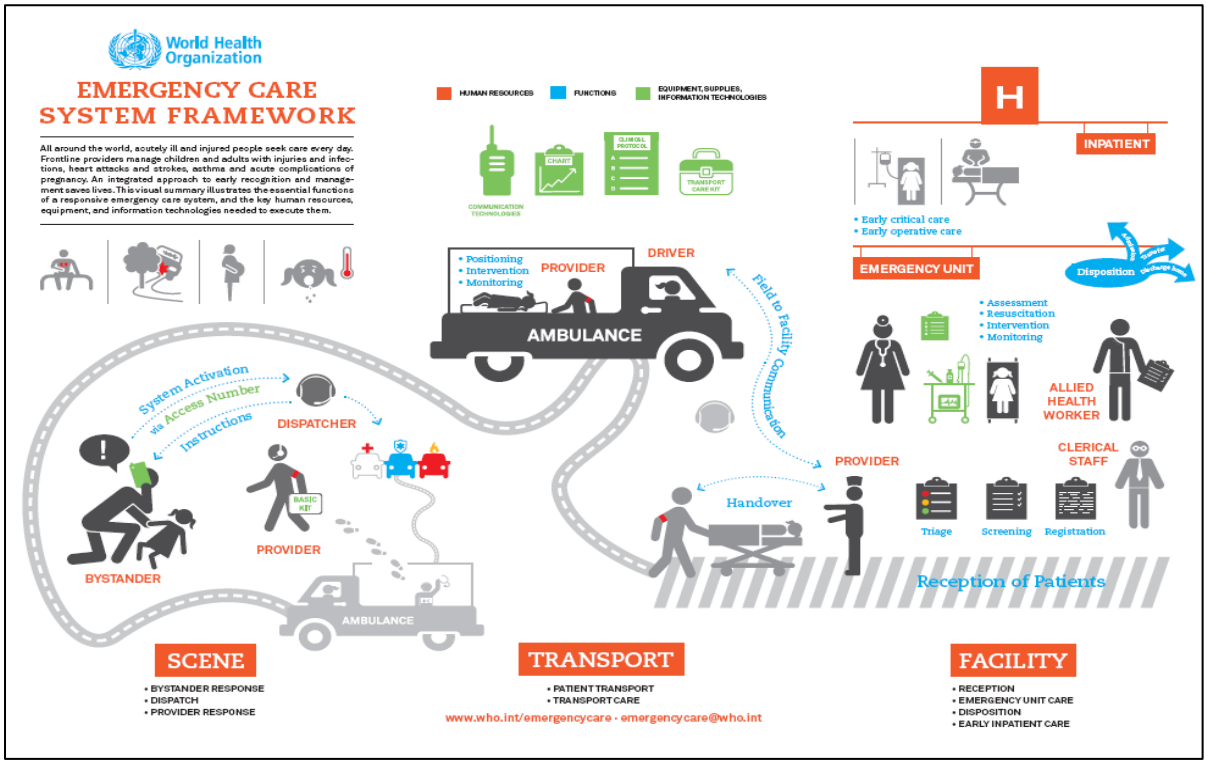
Figure 1: EMS Institutional Framework



EMS Delivery Chain

The widely accepted definition of emergency medical services encapsulates all such services deemed essential in responding to any form of medical emergency including the initial recognition and triage of an emergency situation, the dispatching of an appropriate medical response and patient care by trained EMS personnel and, where necessary, the further referral of an emergency to the next appropriate level of care. By this definition emergency medical services would entail all organisational entities, individuals, facilities, and equipment whose

participation ensures timely and medically appropriate responses to requests for prehospital care and medical transportation (Cone et al 2015).



This section of the report provides a brief overview of the core elements of EMS. This will assist in guiding the subsequent review on EMS expenditures trends and possible operational challenges within provincial EMS.

Well-designed EMS addresses such critical questions as how resources are structured – institutionally, operationally, and financially - so as to attain the primary goal of providing the best clinical and service quality within the available resources (Cone et al 2015). In this context clinical quality refers to the technical performance of clinical processes and their patient outcomes, whilst service quality addresses the experiences and perceptions of patients and other stakeholders with regard to EMS. Economic efficiency which will be the main focus of this report assesses how well the system utilises resources (human or financial) in generating the expected clinical and service quality outcomes. Ultimately a well-designed EMS will seek to provide the services patients need and expect to receive within the available economic resources – i.e., realising value for money. Within the South African context, the 2017 Regulations on Emergency Medical Services provides

Emergency Call Triage

This represents the first element in the EMS service delivery chain. This process helps determine the nature of a medical emergency call, its severity, and the types of resources required for appropriate responses. Resources critical in delivering these services include emergency call receivers and ambulance dispatchers, and communication systems between EMS base stations and emergency response teams.

Ambulance response and transport

This component of the delivery chain entails the broadest spectrum of EMS including medical transportation. It includes the initial physical assessment and treatment of patients at the scene of an emergency adhering to appropriate medical protocols. Following the initial treatment, the response team would also make a determination of whether the patient needs to be referred to higher levels of care. It is common that the same ambulatory services will also be expected to provide critical care transport services where there is a clinical need to move patients with unstable or complex conditions between health facilities. In well-resourced EMS programmes additional capacity may also be made available to respond to major events emergencies and disasters.

In certain instances, aircrafts may be used as part of an emergency response particularly in instances where immediate responses or timely interfacility transfers are critical for favourable health outcomes, or in cases where accessibility by ground ambulances crews is impossible, e.g., deep rural and wilderness areas.

Closely related but separate services will be the planned non-emergency medical transportation services where resources are requested in advance to transport patients on a referral basis.

The main resources needed to deliver EMS transport services include human resources, vehicles, medical equipment, and medical supplies.

Vehicles, Equipment and Supplies

In planning for emergency medical transport services there are various options available in terms of ambulance designs/capabilities, medical equipment, and supplies all of which will invariably have significant implications for clinical and services quality as well have an impact on economic efficiency.

The available Ground Ambulance options (i.e., Type I, II, and III) are listed in National Treasury's R57 Transversal Contract. The standards for EMS Equipment and Supplies are

regulated in terms of the Schedule B of the 2017 Regulations for EMS. Furthermore, in terms of national health guidelines emergency vehicles (ambulances) the regulations have set the norms and standards for Intermediate Life Support (ILS) services at least one ambulance for every 10,000 people within a health district to be serviced.

Human Resources - ALS and/or BLS levels of care

Current regulations require that an ambulance response team must be constituted by two members both of which must be registered with the Health Professions Council of South Africa and certified at the level deemed consistent with EMS levels to be offered by their respective EMS organisations. The required certification levels are categorised as follows:

- **Basic Life Support Ambulance Services**: - For this category EMS operation staff need to be registered as Basic Ambulance Assistants,
- I**ntermediate Life Support Ambulance Services** - the patient attendant to be registered at the minimum as a Paramedic or Emergency Care Technician or Emergency Care Practitioner,
- **Advanced Life Support Ambulance Services** – Patient attendant to be registered as a Paramedic or Emergency Care Technician or Emergency Care Practitioner whilst the second crew must hold a minimum registration of Basic Ambulance Assistant, though it should preferably be a person holding a minimum registration of Ambulance Emergency Assistant or Emergency Care Assistant.

Based on current regulations the provincial health department is permitted to provide intermediate life support emergency services.

The recruitment, utilisation and deployment of such human resources will be subject to current employment and legislative requirements especially the Basic Conditions of Employment Act (1997) and Public Services Regulations of 2001, parts of which stipulate the maximum working hours for an ambulance crew. Currently, this is 45 hours per week, with any hours worked above this threshold considered to be voluntary overtime that should be compensated accordingly.

EMS Resources Deployment Planning

Deployment planning refers to the process of deciding where and when EMS human resources and ambulance units are to be allocated and positioned whilst awaiting for their next call. Within the sector there are four general types of deployment planning - static, dynamic, real-time, and hybrid.

Static deployment being the most basic form of resource deployment ambulances are positioned in EMS stations 24/7 while awaiting calls, with EMS personnel rosters pre-determined and fixed. The locations of the base stations are usually strategically chosen to be closer to densely populated areas and in areas with high historical medical emergency calls.

Dynamic deployment looks for changing spatial and time patterns of demand and develops a plan to make the most efficient use of resources to meet response time goals. Dynamic deployment can save on costs by increasing the utilisation of existing EMS resources (response crews and vehicles) to achieve response time targets without the need to add additional EMS units. However, excessive use of dynamic deployment could lead to an overworked staff and higher levels vehicle impairment both of which could eventually compromise the quality of care. Furthermore, this form of resource deployment requires a significantly higher levels of managerial, technological and data analysis capacities to be implemented effectively, and as such will be more common in highly urban areas. Currently the Western Cape DoH is one of the few government EMS programmes that is progressing towards a dynamic deployment platform making full use of Computerised Ambulance Dispatching and GIS enabled deployment systems.

As a compromise between the two, hybrid approaches combines fixed base stations and temporal spatial locations with crews permitted to move between the two positional points. In all the above approaches it is important to note that EMS are built with inherent excess capacity so as to be able to respond to unforeseen emergencies.

Figure 2: ECDOH EMS Logical Framework

IMPACT	**Increased Life Expectancy through universal health coverage and Improved Access to Quality Health Care**					
OUTCOME (i.e., benefit derived by beneficiaries from their receipt of the programme's outputs)	**An efficient, effective and professional emergency medical services as well as planned patient transport services including medical response services to the citizens of the Eastern Cape Province**					
Key Performance indicators	**Proportion of EMS response times improved to national norms and standards**				**Patients accessing health services at appropriate level of care - Effective Referral System**	**EMS Programme Performance Reporting and Evaluation**
Outputs (please put 1 output be cell)	**Strategic and Long-term Planning for EMS**	**Resourcing the EMS Plan**	**Delivery of Efficient and Effective Emergency Medical Services**		**Patient Access to Appropriate Level of Care**	**EMS Programme Performance Reporting, Oversight and Evaluation**
Key Performance indicators	Provincial Strategic EMS Plans Developed and Adopted	Annual and Operational Plan for EMS - Budget, Procurement and EMS human resources and recruitment plans	EMS P1 urban response under 15 minutes rate EMS P1 rural response under 40 minutes rate	EMS interfacility transfer rate (incl MOU, XDR /MDR)	Proportion of Planned Patient Transfers Undertaken	EMS Programme Performance Reports Evaluation Reports
Responsibility (who is responsible for the output	**Dir EMS and EMS Operations Manager (HO), District EMS Operations managers**	**Dir EMS and EMS Operations Manager (HO), District EMS Operations managers, Government Fleet Services**	**District EMS Operations managers, Government Fleet Management Services**	**District EMS Operations managers, Government Fleet Management Services**	**District EMS Operations managers**	**Dir EMS and EMS Operations Manager (HO), District EMS Operations managers**
Related activities per output						
Activity 1	Planning for EMS guided by the 2017 Regulations Relating to Emergency Medical Services	Development of the Annual, Operational, Procurement and Recruitment Plans for provincial and district EMS	Scheduling of operational ambulances, planned maintanance including monitoring of ambulance fleet utilization and ambulance response times utilizing live tracking system	Scheduling of operational ambulances and planned maintanance of EMS vehicles servicing MOU, XDR /MDR	Patient transport scheduling - establishing of dedicated fleet for inter-facility transfers	Measure and monitor EMS call taking, ambulance dispatching and response times utilizing live tracking/computerised system
Activity 1	Review EMS Base locations based on long-term service demand needs and forecasts - intention to deploy human and material resources closer to communities platform	Budgeting for annual , operational plans for District EMS	Enhancing of ambulance security features	Scheduling of District Emergency Care Officers (Operational EMS Rosters)	Planned maintenance of patient transport vehicles	Monitor EMS ambulance utilisation and other transport fleet
Activity 1	Determining required capacity and service levels inline with existing EMS regulations, norms and standards, including determining required number of ambulances and medical rescue and patient transport vehicles, Determing the required numbers of qualified EMS staff per qualification category (BLS, ILS, ALS)	Recruitment or hiring f new or additional EMS staff and administrative personnel for EMS districts/bases	Scheduling of district Emergency Care Officers (Operationalising EMS Rosters)			Quarterly Reporting: Programme Performance Review from District to Province
Activity 1	Costing of planned services and activities (Budgeting)	Procurement of needed additional ambulances, patient transport and medical rescue vehicles, ICT for EMS call taking and ambulance dispatching, procurement and fitting of car trackers and for all ambulances and patient vehicles	Scheduling EMS calls taking, ambulance dispatchers, medical rescue, aeromedical services dispatching			
Activity 1	Planned up-skilling of EMS officers through PE EMS College and other Accredited EMS Skilling Service Providers (through	Procurement and contracting for Aeromedical EMS	Payment for operational services: municipal and security services,			
Activity 1	Developing safety protocols and occupation	Staffing of Emergency Medical	EMS bases minor maintanance, cleaning, ambulance and EMS base medical waste disposal			
		Sourcing of municipal and security services for district EMS bases	Scheduled training of EMS personnel through PE EMS College			
		Procurement of EMS tools of trade - EMS uniform, equipment,and medical supplies for bases, and stationery	Community engagements on EMS safety programmes, implementation of security protocols for ambulances (car trackers and cameras for ambulances) and EMS officiers			
Activity 1			Delivery of wellness programmes for EMS officers			
Key programme inputs						
Input 1	**Strategic Planning Personnel - Head Office EMS and District EMS**	**Strategic Planning Personnel - Head Office EMS and District EMS,SCM Personnel**	**EMS Operational Personnel - Emergency Care Officers, EMS computerised call taking and ambulance dispatching including system operators, ambulances, fuel, EMS bases infrastructure, EMS medical supplies, water and municipal services, Aeromedical services**	**EMS Operational Personnel - Emergency Care Officers, EMS computerised call taking and ambulance dispatching including system operators, ambulances, fuel, EMS bases infrastructure, EMS medical supplies, water and municipal services, Aeromedical services**	**EMS Operational Personnel, Interfacility patient transport drivers, fuel.**	**Strategic Planning Personnel - Head Office EMS and District EMS, district data capturers, Logbook**

4. EC EMS - Performance

EMS Base Stations

All local and provincial emergency medical services in the province were under the provincial health department in 2003. By end of 2019/20 the provincial health department operated a total of 84 EMS stations across the province, with their spatial distribution skewed towards rural districts. This has been the case so as to improve service accessibility and response times particularly in sparsely populated rural districts.

Table 1: Distribution of EMS staff and vehicles across EC Districts

District	Number of EMS Stations	Number of EMS Officers	Number of Ambulances (# Operational)	Population	Population per EMS staff	EMS vehicles per 10 000 (operational)	Number of Planned Patient Transport Vehicles
A Nzo	8	262	65 (45)	880 790	3 362	0.7 (0.5)	26
Amatole	10	331	60 (51)	867 864	2 622	0.7 (0.6)	17
Buff. City	3	304	44(33)	834 997	2 747	0.5 (0.4)	10
C. Hani	15	404	65 (49)	840 055	2 079	0.8 (0.6)	22
J. Gqabi	11	243	45 (21)	372 912	1 535	1.2 (0.6)	16
N M	3	204	41(38)	1 263 051	6 191	0.3 (0.3)	17
OR Tambo	11	292	74(56)	1 457 384	4 991	0.5 (0.4)	28
S. Baartman	23	422	53(31)	479 923	1 137	1.1 (0.6)	32
Province	**84**	**2 462**	**447**	**6 996 967**	2 842	**0.6 (0.5)**	**168**

However, not all of these service stations have been deemed to be fully functional and adequately resourced to be compliant with the minimum infrastructure and operational standards as set out by current EMS licensing regulations. As per the 2021/22 departmental annual report periodic assessments continuously highlight the following infrastructure and equipment deficiencies:

- Lack of Wash bays
- Lack of Oxygen cages
- Insufficient Medical waste storage
- No medical records storage.

EMS Fleet Management

As of 2019/20 the department had a total of 447 ambulances that were attached to the various EMS base stations. Following the findings by the HRC on the state of emergency services in

the province in 2016 rural districts have been allocated an increasing share of the provincial EMS fleet so as to improve equity and service access for rural communities.

Based on the standard of one ambulances per 10 000 population, the province is deemed to be in need of an additional 200 -250 ambulances to attain the minimum of 600 - 700 operational ambulances to be able to fully service its population of 6.9 million people. The annual cost of these additional ambulances is estimated at R30 - 50 million per annum for lease and maintenance (fuel and repair) costs.

As illustrated in the table 1 above only two districts (J Gqabi and S Baartman) appear to have the sufficient numbers of ambulances to comply with this standard; however, when assessed in terms of operational ambulances per 10 000 none can attain the required fleet numbers.

The reported high numbers of non-operational EMS vehicles in the province have been partly due to a combination of factors including fleet overutilization, poor provincial road conditions, long lead times in repairs and maintenance due to delayed payments for repairs and maintenance. All these challenges have had a direct impact on poor emergency response times.

Human Resources for EMS

Up to now provincial health continues to struggle to achieve an appropriate mix of skilled emergency medical personnel. As an intermediate life support service provider, the department is expected at the minimum to have an Intermediate Life Support (ILS) officer as part of the two-person ambulance crew deployed to an emergency. This translates into a minimum of (700x4) 2800 ILS or Advanced Life Support (ALS) officers required based on current labour regulations; and this is considerably higher than the 637 ILS and 50 ALS officers currently employed by the provincial health department.

Table 2: EMS Staff composition by district and skill level

	Number of EMS Staff					
	2017/18			2018/20		
	BLS	ILS	ALS	BLS	ILS	ALS
Amathole	250	25	2	283	45	3
Alfred Nzo	150	31	5	183	70	9
Buffalo City Metro	180	128	6	205	92	7
Chris Hani	316	48	6	277	122	5
Joe Gqabi	178	33	3	201	39	3
Nelson Mandela	141	111	8	128	70	6
OR Tambo	217	21	3	215	67	10
Sarah Baartman	184	95	6	283	132	7
Province	*1616*	*492*	*39*	*1775*	*637*	*50*

Most of the EMS officers in the department fall within the category of Basic Life Support and the department has targeted to upward train the majority of these so the ILS level.

Moving forward the national department has, however, resolved to discontinue all current skills upgrading programmes for BLS to ILS in favour of introducing a new and more structured NQF aligned curriculum which will culminate into either a one-year certificate or a two-year diploma qualification for enrolled candidates. Under the new proposed arrangement it is envisaged that the department will need to upgrade approximately 890 of its current BLS officers. However, given the high number of officers that will need to be trained this is unlikely to achieved over the short-to medium-term due to limited training capacity within local universities, and constrained departmental budget.

Emergency Response Times

In common with other provincial health EMS programmes EC provincial health has been struggling to fully deliver on priority one (P1) emergency commitments both for rural and urban areas. For the period up to 2019/20 the health sector targets for emergency response times were set at 15 minutes and 40 minutes for priority 1 emergency calls in urban and rural settings, respectively. In 2019/20 the EC provincial EMS could only manage to adequately respond to 23 percent of its priority 1 calls in urban settings and 48 percent of these in rural areas.

Table 3: Rural and Urban Priority 1 Response Times across South African Provinces

Province	Indicator	2016/17	2017/18	2018/19	2019/20
EC	P1 Urban (%)	41	31	32.2	23
	P1 Rural (%)	58	56.2	51.4	48
FS	P1 Urban (%)	55.3	58	51	38.3
	P1 Rural (%)	71.8	72.5	70.9	78.8
WC	P1 Urban (%)	58	59.5	46.8	37.5
	P1 Rural (%)	79	79.3	73.7	72
KZN	P1 Urban (%)	5	23	35.7	36.5
	P1 Rural (%)	34.9	36.2	50	37.6
Lim	P1 Urban (%)	55.37	23.2	49.5	71.9
	P1 Rural (%)	67.79	34	47.9	33.1
NC	P1 Urban (%)	37	32	39	52
	P1 Rural (%)	52.1	51	55.8	57
NW	P1 Urban (%)	46.6	44	44	50.1
	P1 Rural (%)	53.6	55.3	52.3	56
Mp	P1 Urban (%)	72.3	71	63.3	43.5
	P1 Rural (%)	69.5	68	63.4	51

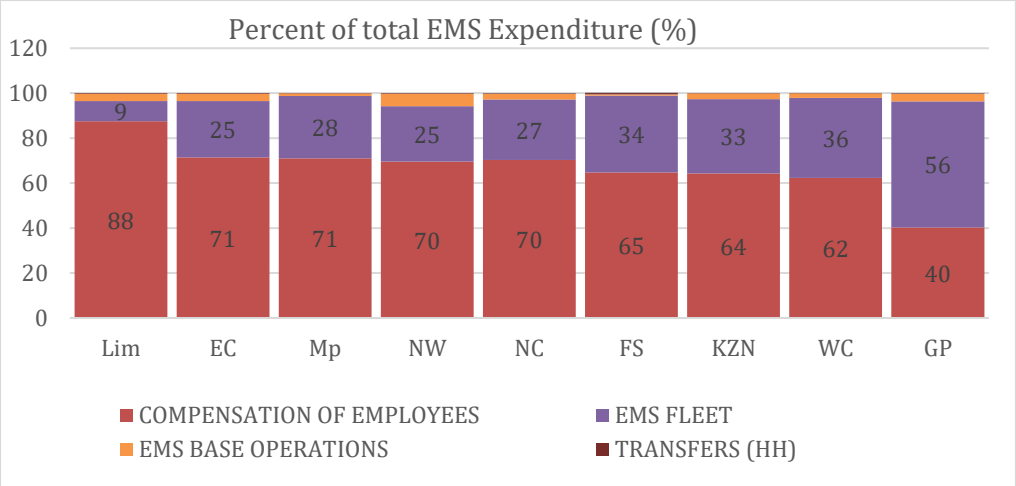
Challenges commonly cited include the shortage of properly qualified EMS officers and high worker attrition due to work overload, challenges in leadership and management of EMS personnel, adversarial labour relations, long delays in the implementation of the computerised call taking and ambulance dispatching system, vast distances travelled when responding to

rural community calls, and the growing demand for EMS services due to population growth/movements and urbanisation within some districts and metros.

Notably, however, are the extremely low response times in the Eastern Cape compared to all other province with the exception of KwaZulu Natal. This is despite the province spending the third highest amount on emergency medical services in the country, with most of that expenditure being spent on the compensation of employees.

Table 4: EMS Expenditure per Capita Across Provinces
(Rands)

	2016/2017	2017/2018	2018/2019	2019/2020	2020/2021
KwaZulu Natal	111	125	129	142	140
Gauteng	72	85	90	102	108
Eastern Cape	160	192	190	191	190
Western Cape	152	150	163	168	165
Limpopo	121	127	133	140	145
Free State	197	281	244	277	269
Mpumalanga	75	83	80	91	101
North West	78	76	88	109	104
Northern Cape	232	243	265	265	314
Grand Total	115	129	133	143	145



Interventions to Improve Response Times

In an attempt to address poor response times the provincial health department has been prioritising the following interventions since 2016/17:

EMS vehicles and Planned Patient Transport Vehicles Replacement and Additions

For the period 2016 – 2021 the provincial health department through the provincial department of transport has procured additional and replacement EMS and Patient Transport vehicles in

order to improve fleet operations efficiency and response times. The following EMS vehicles were received in the respective financial years:

- FY 2017/18 - 197 vehicle additions / replacements of which 27 were planned patient transport vehicles, 135 ambulances, 31 response cars and 4 rescue vehicles)
- FY 2019/20 - 244 additions/replacement EMS vehicles, of which 179 were replacement ambulances, 53 planned patient transport vehicles, 5 response and 7 rescue vehicles
- FY 2020/21 – 98 replacement vehicles, of which 76 were ambulances, 10 planned patient vehicles, 7 rescue vehicles, 3 response cars, and 2 administration cars

All new and replacement EMS have been fitted with tracking devices for remote vehicle location and monitoring.

However, despite the high number of EMS vehicle replacements there is still a dire shortage of medical equipment fitted on the new vehicle replacements in line with EMS regulations. Recent assessments of the provincial EMS fleet have highlighted the following equipment shortages:

- ECG machines with defibrillator
- Ventilators
- Incubators
- Infusion pumps and syringe drivers
- Traction splits
- Immobilisation devices

Interventions at empowering frontline supervisors and station managers to effectively manage operations at base station level have also been prioritised.

The contract for the delayed rollout of the computerised call taking and Ambulance dispatching system was finally awarded in 2020 with initial infrastructure assessment and base stations sites readiness conducted to date. IT infrastructure gaps have, however, been identified as critical constraints further delaying the project's full rollout across all EMS bases in the province. Accordingly, two districts, Nelson Mandela Metro and Chris Hani District have been prioritised for immediate project rollout.

Additions and refurbishment of EMS stations around the province has also been ongoing in attempt to locate services closer to service demand points. In 2019/20 the provincial health department opened new EMS station in the Nelson Mandela metro which will serve as the hub for the metro supporting various satellite stations around the metro.

5. Expenditure Trends Observations

EMS Expenditure Trends – Provincial Comparison

Total expenditure on emergency medical services in the province increased from R1.067 billion in 2016/17 to R1.27 billion in 2020/21 representing a nominal annual growth of 4.5 per cent. This growth was the second lowest growth slightly more than that of the Western Cape. Despite the slow growth provincial expenditure on emergency medical services remains the third highest in the country both in absolute and per capita terms.

Table 5: Total Expenditure on EMS across all provinces

	2016/2017	2017/2018	2018/2019	2019/2020	2020/2021	A AvgG (2016 - 2020/21)
Gauteng	1 010 468 476	1 219 274 163	1 330 508 095	1 539 780 831	1 680 800 759	**13.6%**
KwaZulu Natal	1 209 290 690	1 377 577 460	1 446 650 280	1 602 886 015	1 605 926 519	**7.3%**
Eastern Cape	1 067 655 739	1 279 087 143	1 273 093 997	1 277 759 682	1 272 302 984	**4.5%**
Western Cape	984 923 320	994 862 171	1 102 444 102	1 155 891 628	1 154 635 717	**4.1%**
Limpopo Province	688 642 504	731 565 898	768 107 380	817 796 293	855 667 302	**5.6%**
Free State	564 230 022	806 969 922	707 408 734	808 060 245	788 794 590	**8.7%**
Mpumalanga	328 189 115	371 518 980	363 412 092	419 058 249	471 399 912	**9.5%**
North West	296 656 434	296 433 345	345 364 888	435 983 625	425 107 909	**9.4%**
Northern Cape	284 988 943	302 725 623	333 703 207	338 893 734	405 480 640	**9.2%**
Grand Total	**6 435 045 243**	**7 380 014 706**	**7 670 692 775**	**8 396 110 302**	**8 660 116 331**	**7.7%**

Table 6: EMS expenditure per capita per expenditure component

EMS EXPENDITURE PER CAPITA - FY 2019/20	EC	FS	GP	KZN	Lim	Mp	NW	NC	WC	Total
COMPENSATION OF EMPLOYEES	**136**	**179**	**41**	**91**	**122**	**64**	**76**	**187**	**105**	**91**
S&W: BASIC SALARY	78	111	27	54	73	37	47	115	68	56
S&W: OTHER	13	18	5	9	11	7	7	19	11	9
S&W:OVERTIME	11	14	0	10	14	6	6	13	6	7
S&W:CMPNS/CIRCM	15	9	2	4	6	3	4	12	5	5
EMPL CONTRIBUTION	20	28	7	14	18	11	12	28	15	14
EMS FLEET	**48**	**95**	**57**	**47**	**13**	**25**	**27**	**72**	**60**	**47**
EMS FLEET & OTHER OPERATIONAL EXPENDITURES	41	65	29	28	7	13	25	62	53	32
EMS FLEET & OTHER EMS EQUIPMENT CAPITAL EXPENDITURE	2	27	25	15	3	8	0	9	2	12
EMS MEDICAL SUPPLIES, MEDICINE, & INIF & PROT CLOTH	3	2	2	2	2	1	1	1	4	2
EMS ICT	2	1	0	1	1	3	1	0	2	1
EMS BASE OPERATIONS	**6**	**2**	**4**	**4**	**5**	**1**	**6**	**7**	**3**	**4**
EMS BASES OPERATIONAL EXPENDITURE (INCL. PROPERTY PAYMENTS)	4	0	3	3	3	0	3	4	2	3
EMS BASES CAPITAL EXPENDITURE	0	0	0	0	0	0	0	0	0	0
TRAVEL & SUBSISTENCE	1	0	0	0	0	0	1	2	1	0
OTHER G&S	1	1	1	0	1	0	1	1	0	1
TRANSFERS	**0.5**	**1.2**	**0.1**	**0.1**	**0.2**	**0.1**	**0.1**	**0.1**	**0.2**	**0.2**
HOUSEHOLDS (HH)	0	1	0	0	0	0	0	0	0	0
OTHER EXPENDITURE	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Grand Total	**191**	**277**	**102**	**142**	**140**	**91**	**109**	**265**	**168**	**143**

Compensation of Employees Expenditure

Annually CoE consumes the largest share of provincial EMS expenditure for both emergency medical and planned patient transport services. It constitutes just more than 73 per cent of total programme expenditure whilst expenditure on EMS fleet (capital and operational) constitutes about 24 per cent. Expenditure on EMS base stations which constitutes about 2.6 per cent is mainly for property services payments and base security services.

Table 7: Changes in the compositions of the Eastern Cape's expenditure on EMS

EC EMS Main Expenditure Components	2016/2017	2017/2018	2018/2019	2019/2020	2020/2021	Ann Avg Gr (2016/17 - 2020/21)	Per cent share
Compensation of Employees	**712 945 728**	**933 625 633**	**971 945 010**	**913 266 615**	**980 226 710**	**8.3%**	**73.1%**
BASIC SALARY	438 318 271	463 802 772	497 178 593	521 358 498	513 284 897	4.0%	39%
S&W: OTHER	72 416 994	74 997 367	79 381 076	83 943 715	84 418 535	3.9%	6%
S&W:OVERTIME	65 027 063	74 248 591	66 532 006	73 371 156	113 895 946	15.0%	6%
S&W:CMPNS/CIRCM (SHIFT ALLOW)	33 584 863	207 601 720	205 186 819	100 391 762	129 963 915	40.3%	11%
EMPL CONTRIBUTION	103 598 538	112 975 184	123 666 515	134 201 486	138 663 417	7.6%	10%
EMS FLEET	**302 314 185**	**325 033 557**	**271 763 556**	**320 049 780**	**263 191 790**	**-3.4%**	**24.0%**
EMS FLEET & OTHER OPERATIONAL EXPENDITURES	276 329 424	285 624 902	246 848 994	274 133 091	235 160 610	-4.0%	21%
EMS FLEET & OTHER EMS EQUIPMENT CAPITAL EXPENDITURE	893 028	13 914 748	1 975 569	13 528 892	0	-97.4%	0%
EMS MEDICAL SUPPLIES, MEDICINE, & INIF & PROT CLOTH	15 199 853	17 756 791	10 681 428	19 451 206	21 374 328	8.9%	1%
EMS ICT	9 891 880	7 737 116	12 257 565	12 936 592	6 656 851	-9.4%	1%
EMS BASE OPERATIONS	**49 831 607**	**18 326 403**	**25 607 550**	**41 316 424**	**26 962 315**	**-14.2%**	**2.6%**
EMS BASES CAPITAL EXPENDITURE	124 879	122 212	140 431	857 076	0	-100.0%	0%
EMS BASES OPERATIONAL EXPENDITURE (INCL. PROPERTY PAYMENTS)	40 301 955	12 337 548	17 869 839	28 164 582	22 626 670	-13.4%	2%
OTHER G&S	2 295 733	1 242 309	1 703 621	6 989 507	1 554 536	-9.3%	0%
TRAVEL & SUBSISTENCE	7 109 039	4 624 334	5 893 658	5 305 260	2 781 110	-20.9%	0%
HOUSEHOLDS (HH)	**2 564 219**	**2 101 549**	**3 777 883**	**3 126 862**	**1 922 168**	**-7.0%**	**0.2%**
Grand Total	**1 067 655 739**	**1 279 087 143**	**1 273 093 997**	**1 277 759 682**	**1 272 302 984**	**4.5%**	**100%**

Growth in provincial EMS expenditure has been driven by increases in CoE expenditure most of which was recorded in the 2017/18. For 2017/18 there were also significant increases in expenditure for machinery and equipment mainly for the replacement of an aging EMS fleet with 135 new 4X4 ambulances.

For CoE, expenditure growth over the period 2016/17 – 2020/21 has been for shift allowances and overtime payments following past labour disputes and agreements reached between provincial health and labour unions. The spike in CoE expenditure in 2020/21 in particular was for the payment of disputed shift allowances for Covid 19 related work following disruptive labour unrests at the Amathole District, Buffalo City, and Nelson Mandela metro EMS stations. To highlight the abnormal growth in CoE for the province the figure below provides a cross provincial comparison. Unlike other provinces a significant component of CoE growth in the province has been due to increases in overtime and shift allowances (S&W: CMPNS/CIRCM).

Figure 3: Cross provincial comparisons of changes to components of COE

	Eastern Cape			Free State			Gauteng		
	2016/17	2020/21	Annual growth (%)	2016/17	2020/21	Annual gro	2016/17	2020/21	Annual growth (%)
COMPENSATION OF EMPLOYEES	712 945 728	980 226 710	8	389 882 545	521 697 550	8	447 344 598	757 889 618	14
S&W: BASIC SALARY	438 318 271	513 284 897	4	242 973 516	317 406 305	7	287 905 662	502 296 475	15
S&W:OVERTIME	65 027 063	113 895 946	15	22 772 935	39 387 181	15	15 304 727	18 388 209	5
S&W:CMPNS/CIRCM	33 584 863	129 963 915	40	19 163 461	24 883 463	7	19 812 476	35 792 488	16
S&W: SERVICE BONUS	36 100 966	42 824 083	4	20 099 452	25 655 487	6	22 332 759	36 838 762	13
S&W:HOUSING ALLOWANCE	35 408 374	40 788 793	4	20 992 658	26 063 342	6	19 296 483	32 201 478	14

	KwaZulu Natal			Limpopo Province			Mpumalanga		
	2016/17	2020/21	Annual growth (%)	2016/17	2020/21	Annual growth (%)	2016/17	2020/21	Annual growth (%)
COMPENSATION OF EMPLOYEES	866 529 851	1 074 825 896	6	584 117 397	722 422 782	5	267 257 320	302 732 336	3
S&W: BASIC SALARY	513 175 040	634 900 939	5	342 147 123	424 279 974	6	127 539 241	172 711 902	8
S&W:OVERTIME	100 292 833	126 833 868	6	68 548 767	87 043 053	6	65 929 158	31 233 249	-17
S&W:CMPNS/CIRCM	38 077 212	45 767 821	5	27 758 099	31 539 108	3	12 044 969	13 504 967	3
S&W: SERVICE BONUS	42 929 683	52 305 658	5	28 672 416	35 009 859	5	10 241 242	14 298 989	9
S&W:HOUSING ALLOWANCE	40 487 597	48 756 041	5	28 576 916	31 064 126	2	10 916 000	14 611 723	8

	North West			Northern Cape			Western Cape		
	2016/17	2020/21	Annual growth (%)	2016/17	2020/21	Annual growth (%)	2016/17	2020/21	Annual growth (%)
COMPENSATION OF EMPLOYEES	239 409 391	311 013 425	7	182 080 412	244 808 136	8	594 689 654	729 515 471	5
S&W: BASIC SALARY	138 569 680	202 911 859	10	112 185 355	145 473 767	7	373 786 442	475 677 050	6
S&W:OVERTIME	29 039 526	5 939 313	-33	11 875 421	19 021 350	12	45 313 410	36 918 358	-5
S&W:CMPNS/CIRCM	12 603 724	17 617 040	9	12 397 610	17 585 022	9	29 237 497	35 222 833	5
S&W: SERVICE BONUS	11 564 322	16 242 492	9	9 106 727	11 910 354	7	31 061 474	38 158 659	5
S&W:HOUSING ALLOWANCE	10 889 100	14 351 227	7	9 075 267	11 463 371	6	21 801 292	25 895 331	4

Only in the NW, Mpumalanga, and the Western Cape province have there been minimal or declining expenditure on overtime and shift allowance for the period. For the North West this has mainly been due to the outsourcing of EMS operations to private operators, whilst for the other two provinces this has been due the slowing down of operations due to Covid-19.

Fleet services

Expenditures on fleet mainly covers fleet operations (fuel, repairs and maintenance for ambulances, response vehicles, patient transport buses; finance lease costs and aeromedical services), and capital costs for equipment and machinery. For accounting purposes, expenditure on EMS Fleet has been categorised to be inclusive of EMS medical supplies, EMS equipment, uniform and protective clothing.

Over the past four years, expenditure on this category has been declining at an average of 4 per cent per annum. The main reasons for the decline include the annual reprioritisation/shifting of the fleet budget towards the settlement of rising medical legal claims against the health department, the delayed or late payments by provincial health of fuel and rate card to the provincial department of transport, and the long lead times in maintenance and repairs of the EMS fleet. As of end of 2020/21 the provincial health owed the department of transport on outstanding rate card.

Contained within EMS fleet expenditures there are expenditures for aeromedical services which catered for inter-facility transfers for critical ill and acute emergency cases. Due to their

high costs these services have been reduced since 2019 with new revised and cheaper contracts currently being explored.

As highlighted earlier the only significant expenditures on fleet capitalisation were recorded in the 2017/18 and 2019/20 financial years when the provincial health department received replacement and additional EMS fleet.

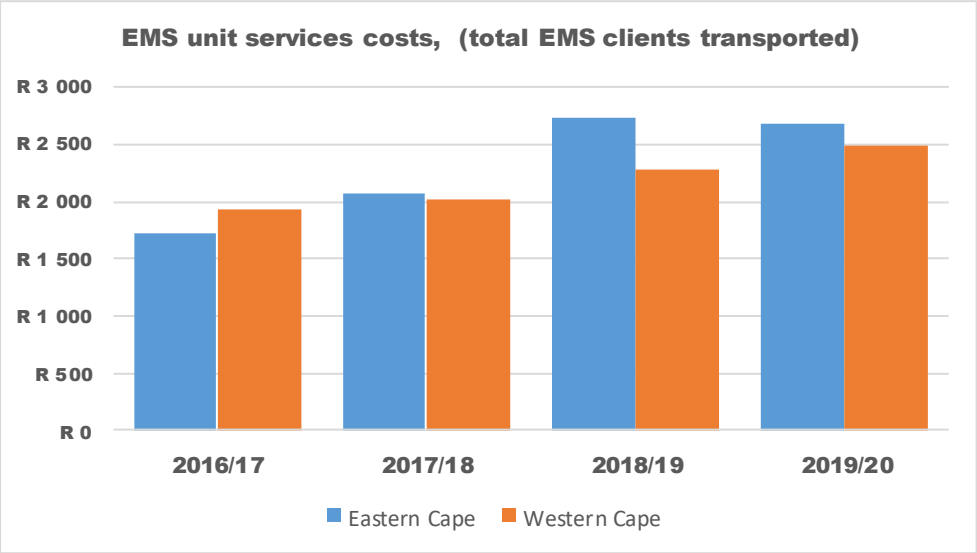
Expenditure for EMS medical supplies, uniform and protective clothing mainly catered for EMS officers' uniforms and protective clothing.

Expenditure on EMS ICT still does not cater for computerised emergency call taking and ambulance dispatching despite the province spending more on this item compared to the Western Cape where such a system is currently being utilised.

Expenditure on EMS base operations is mainly constituted by payments for properties and base security services. There has been minimal expenditure on buildings and capital leading to some bases being classified as below the minimum EMS regulation standards.

EMS Services Unit Costs

Graph below reports on EC EMS unit costs versus WC EMS highlighting how these have increased in the province over time.



6. Options for limiting expenditure

Improving Operational Efficiency

In assessing the operational efficiencies of provincial emergency services data envelopment analysis techniques were utilised to derive efficiency scores that could easily be compared across provinces. The scores relate service output levels to expenditure on operational inputs

which mainly are expenditure on labour inputs and EMS fleet operations. When calculating the efficiency scores measures were taken to normalise provincial scores to be comparable taking into account provincial population and geographic sizes. These were used to weight the respective provincial EMS response times.

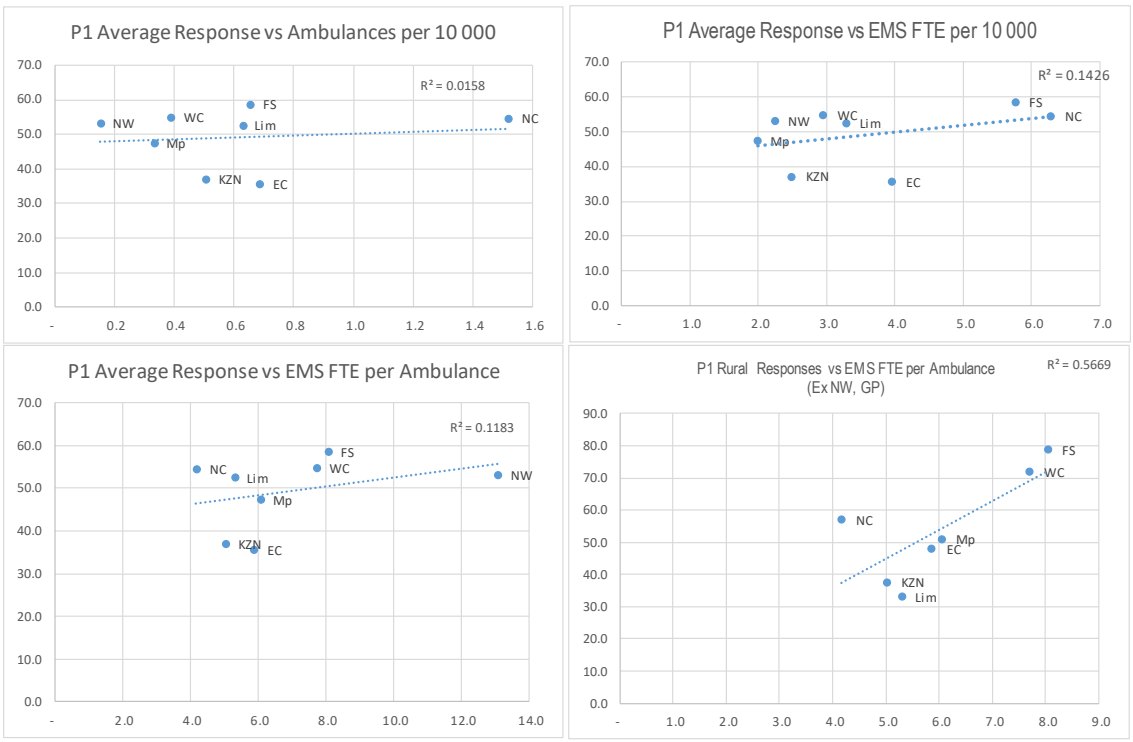
The DEA approach presupposes that EMS response times could be influenced by many factors both within the provincial EMS programmes and by the external environment in which those services are being delivered. The main resources used to deliver the services include mainly emergency officers, their supervisory management staff, and EMS fleet. The graphs below relate average EMS response times against service inputs.

Table 8: Data Envelope Analysis – Provincial Efficiency Scores

Province	P1 Urban	P1 Rural	P1 Average Response	EMS FTE	EMS FTE per Ambulance	DEA Efficiency score
KZN	36.5	37.6	37.1	2 883	5.0	0.75
EC	23.0	48.0	35.5	2 626	5.9	0.51
WC	37.5	72.0	54.8	2 038	7.7	1.00
Lim	71.9	33.1	52.5	1 983	5.3	-
FS	38.3	78.8	58.6	1 539	8.1	1.00
Mp	43.5	51.0	47.3	929	6.1	1.00
NW	50.1	56.0	53.1	798	13.1	-
NC	52.0	57.0	54.5	789	4	1.00

Source: Data sourced from Provincial DoH Annual Reports
Note: Limpopo, North West and Gauteng efficiency scores excluded for better comparison

Figure 4: Comparison of response times to key inputs



From the above it would appear that response times are in some way related to the availability of EMS officers and to a lesser extent ambulances. Furthermore, what is critical is that these should be provided for in combination of each other so as to realise higher response times. This is demonstrated by the relationship between the responses times and the number of FTE per ambulance in rural settings. The ideal ratio of FTEs to ambulances is estimated at eight EMS officers per ambulance.

Based on efficiency scores the relatively inefficient EMS programmes were those from the Eastern Cape and KwaZulu Natal. The two programmes spend relatively more but are unable to respond to critical emergencies within acceptable times, as compared to the Western Cape, Free State, Mpumalanga, and the Northern Cape. Efficiency scores for North West, Limpopo and Gauteng were not included. For the North West this was because of the high level of outsourcing of EMS services in that province, whilst for Gauteng and Limpopo there are general concerns about the accuracy of their reported EMS response times.

Based on the calculated efficiency scores the following were identified as possible areas of improvement and potential savings. These assuming that the Eastern Cape become as efficient as the most efficient provinces.

Table 9: Estimated savings from improving ECDoH EMS expenditure efficiency score

Expenditure Category	Potential Savings
S&W: BASIC SALARY	181 225 723
EMPL CONTRIBUTION	56 896 783
S&W: OTHER	29 980 743
S&W:CMPNS/CIRCM (OVERTIME & SHIFT ALLOWANCES)	72 017 789
EMS FLEET & OTHER OPERATIONAL EXPENDITURES	26 748 548
S&W:OVERTIME	40 879 850
EMS BASES	23 837 618
EMS ICT	6 425 059
EMS FLEET & OTHER EMS EQUIPMENT CAPITAL EXPENDITURE	-
EMS MEDICAL SUPPLIES, MEDICINE, & UNIF & PROT CLOTH	5 067 529

Savings on basic salaries, employer contributions and other salaries can only be realisable in the medium to long-term as the provincial health department re-optimises and adjusts its recruitment plan for EMS officers. For the short to medium-term the focus should be on trying to monitor and limit payments for overtime and shift allowances, closer monitoring of the utilisation of the EMS fleet through the installation of vehicle tracking devices, and the rollout of the long-awaited computerised emergency call and ambulance dispatching system. Expenditure on security services for EMS bases should also be closely monitored.

Shift Standardisation

Currently the ECDoH operates four shift/rosters per day with shifts lasting either 8 hours or 12 hours. Depending on shift allocations an officers can be expected to work up to a maximum

of 192 hours per month which is higher than the maximum stipulated hours as per the Basic Conditions of Employment currently set at 45 hours per week.

According to the provincial health department the need for abnormal working hours has been due to the dire shortage of EMS officers in the department. However, the lack of standardisation and monitoring of shifts at base station level could be argued to also contribute and encourage the practice of working unnecessary longer hours. This is evident from the fact that despite the slowing of operations due to the growing shortage of operational ambulances (owing to repairs and maintenance and Covid 19 lock downs) overtime and shift allowance expenditure continues to increase unabated. There have also been reports that some EMS officers being paid for overtime despite being absent from work.

Figure 5: Possible changes to EMS officer scheduling to reduce overtime

		CURRENT EMS OFFICER SCHEDULING								OPTIMAL EMS OFFICER SCHEDULING						
		Mon	Tue	Wed	Thu	Fri	Sat	Sun		Mon	Tue	Wed	Thu	Fri	Sat	Sun
Shift 1	Week 1	1	1	1	1	0	0	0		1	1	1	1	0	0	0
	Week 2	0	1	1	1	1	0	0		0	0	1	0	0	1	0
	Week 3	0	0	1	1	1	1	0		0	0	1	1	1	1	1
	Week 4	0	0	0	1	1	1	1		1	0	0	0	0	1	1
	Week 5	0	0	0	0	0	0	0		1	1	0	0	0	0	0
				Total hrs	192							Total hrs	192			
Shift 2	Week 1	0	0	0	0	1	1	1		1	0	0	1	1	1	1
	Week 2	1	0	0	0	0	1	1		0	1	0	0	0	0	1
	Week 3	1	1	0	0	0	0	1		1	1	1	0	0	1	1
	Week 4	1	1	1	0	0	0	0		0	1	1	1	1	0	0
	Week 5	1	1	1	0	0	0	0		0	0	0	0	0	0	0
				Total hrs	180								192			
Shift 3	Week 1	1	1	0	0	0	0	1		0	0	1	0	1	0	0
	Week 2	1	1	1	0	0	0	0		1	0	1	1	1	1	0
	Week 3	1	1	1	1	0	0	0		1	1	0	0	1	0	0
	Week 4	0	1	1	1	1	0	0		0	1	1	1	0	0	1
	Week 5	0	0	1	0	0	0	0		0	1	1	0	0	0	0
				Total hrs	180								192			
Shift 4	Week 1	0	0	0	0	1	1	1		0	1	0	0	0	1	1
	Week 2	1	0	0	1	1	1	1		1	1	0	1	1	0	1
	Week 3	0	0	0	0	1	1	1		0	0	0	1	0	0	0
	Week 4	1	0	0	0	0	1	1		1	0	0	0	1	1	0
	Week 5	1	1	0	0	0	0	0		1	0	1	0	0	0	0
				Total hrs	192								168			

7. Recommendations

Based on the reports findings and inferences, the following recommendations are made:

1. Strengthen and empower EMS station managers and EMS shift officers at district level to monitor and properly manage staff for high services level accountability. The focus should be on strict monitoring and scheduling of EMS officers to limit excessive expenditure on overtime and abnormal shift allowances.
2. Constantly monitor the utilisation of the ambulance fleet to ensure accept emergency response times.
3. Reprioritise or shift expenditure within the programme towards upgrading EMS base stations so as to be fully compliant with current EMS regulations
4. Review and renegotiate contracts especially for aero medical services and security services which have been acknowledged to be costly.

Appendices

EMS EXPENDITURE ACROSS PROVINCES PER BROAD EXPENDITURE CATEGORY

	Eastern Cape			Free State			Gauteng		
	2016/2017	2020/2021	% Annual G	2016/2017	2020/2021	% Annual G	2016/2017	2020/2021	% Annual G
COMPENSATION OF EMPLOYEES	**712 945 728**	**980 226 710**	**8.3**	**389 882 545**	**521 697 550**	**7.6**	**447 344 598**	**757 889 618**	**14.1**
BASIC SALARY	438 318 271	513 284 897	4.0	242 973 516	317 406 305	6.9	287 905 662	502 296 475	14.9
S&W: OTHER	72 416 994	84 418 535	3.9	42 325 945	55 154 645	6.8	52 656 214	72 760 670	8.4
S&W:CMPNS/CIRCM (SHIFT ALLOW)	33 584 863	129 963 915	40.3	19 163 461	24 883 463	6.7	19 812 476	35 792 488	15.9
S&W:OVERTIME	65 027 063	113 895 946	15.0	22 772 935	39 387 181	14.7	15 304 727	18 388 209	4.7
EMPLOYER CONTRIBUTION	103 598 538	138 663 417	7.6	62 646 688	84 865 955	7.9	71 665 520	128 651 775	15.8
EMS FLEET	**302 314 185**	**261 922 081**	**-3.5**	**70 084 037**	**239 881 142**	**36.0**	**522 406 434**	**846 895 090**	**12.8**
EMS FLEET & OTHER OPERATIONAL EXPENDITURES	276 329 424	235 160 610	-4.0	56 301 257	224 653 502	41.3	419 047 169	207 214 886	-16.1
EMS FLEET & OTHER EMS EQUIPMENT CAPITAL EXPENDITURE	893 028	0	-100.0	1 649 844	7 028 143	43.7	82 829 120	585 277 055	63.0
EMS MEDICAL SUPPLIES, MEDICINE, & INIF & PROT CLOTH	15 199 853	21 374 328	8.9	8 346 579	2 890 697	-23.3	13 751 582	42 330 912	32.5
EMS ICT	9 891 880	6 656 851	-9.4	3 786 357	5 308 800	8.8	6 778 564	12 072 237	15.5
EMS BASE OPERATIONS	**49 831 607**	**26 962 315**	**-14.2**	**104 305 076**	**29 499 677**	**-27.1**	**47 249 232**	**89 293 172**	**17.2**
EMS BASES OPERATIONAL EXPENDITURE (INCL. PROPERTY PAYMENTS)	4 611 964	7 024 676	11.1	109 389	587 636	52.2	582 677	841 731	9.6
EMS BASES - SECURITY SERVICES	5 836 013	12 250 086	20.4	24 000	0	-100.0	10 957 677	17 275 082	12.1
EMS BASES BUILDINGS, CAPITAL & MACHINERY	29 183 779	2 887 735	-43.9	99 983 423	21 987 116	-31.5	20 058 183	42 112 690	20.4
OTHER G&S	3 749 422	3 714 492	-0.2	2 094 132	3 462 463	13.4	8 039 001	14 605 064	16.1
OTHER G&S	3 740 822	2 862 342	-6.5	2 094 132	3 462 463	13.4	7 611 693	14 458 604	17.4
HOUSEHOLDS (HH)	**2 564 219**	**1 922 168**	**-7.0**	**626 197**	**596 117**	**-1.2**	**673 956**	**1 098 425**	**13.0**
INTEREST & RENT				5 549		**-100.0**			
GRAND TOTAL	**1 067 655 739**	**1 272 302 984**	**4.5**	**564 230 022**	**788 794 590**	**8.7**	**1 010 468 476**	**1 680 800 759**	**13.6**

	KwaZulu Natal			Limpopo Province			Mpumalanga		
	2016/2017	2020/2021	% Annual G	2016/2017	2020/2021	% Annual G	2016/2017	2020/2021	% Annual G
COMPENSATION OF EMPLOYEES	**866 529 851**	**1 074 825 896**	**5.5**	**584 117 397**	**722 422 782**	**5.5**	**267 257 320**	**302 732 336**	**3.2**
BASIC SALARY	513 175 040	634 900 939	5.5	342 147 123	424 279 974	5.5	127 539 241	172 711 902	7.9
S&W: OTHER	86 501 347	103 620 101	4.6	64 896 343	69 159 498	1.6	23 183 551	31 028 439	7.6
S&W:CMPNS/CIRCM (SHIFT ALLOW)	38 077 212	45 767 821	4.7	27 758 099	31 539 108	3.2	12 044 969	13 504 967	2.9
S&W:OVERTIME	100 292 833	126 833 868	6.0	68 548 767	87 043 053	6.2	65 929 158	31 233 249	-17.0
EMPLOYER CONTRIBUTION	128 483 419	163 703 166	6.2	80 767 064	110 401 148	8.1	38 560 401	54 253 780	8.9
EMS FLEET	**307 291 015**	**479 722 839**	**11.8**	**90 104 746**	**107 615 828**	**4.5**	**45 233 783**	**160 398 618**	**37.2**
EMS FLEET & OTHER OPERATIONAL EXPENDITURES	264 824 535	267 628 020	0.3	51 573 123	47 087 479	-2.2	32 687 182	50 531 333	11.5
EMS FLEET & OTHER EMS EQUIPMENT CAPITAL EXPENDITURE	16 486 498	165 103 339	77.9	32 167 812	47 265 423	10.1	9 388 950	94 086 278	77.9
EMS MEDICAL SUPPLIES, MEDICINE, & INIF & PROT CLOTH	16 588 306	31 110 709	17.0	1 068 882	6 068 933	54.4	1 205 794	1 579 545	7.0
EMS ICT	9 391 676	15 880 771	14.0	5 294 929	7 193 992	8.0	1 951 858	14 201 463	64.2
EMS BASE OPERATIONS	**36 008 159**	**51 847 326**	**9.5**	**15 097 773**	**31 359 433**	**20.1**	**15 846 485**	**10 035 294**	**-10.8**
EMS BASES OPERATIONAL EXPENDITURE (INCL. PROPERTY PAYMENTS)	5 945 496	6 791 601	3.4	916 838	1 213 955	7.3	193 372	232 284	4.7
EMS BASES - SECURITY SERVICES	16 183 962	28 546 161	15.2	10 093 553	15 879 196	12.0			
EMS BASES BUILDINGS, CAPITAL & MACHINERY	3 133 758	4 606 259	10.1	127 080	257 903	19.4	14 344 811	4 009 321	-27.3
OTHER G&S	6 373 268	6 966 706	2.3	2 048 512	7 129 247	36.6	654 151	3 104 054	47.6
OTHER G&S	4 371 674	4 936 599	3.1	1 911 790	6 879 132	37.7	654 151	2 689 634	42.4
HOUSEHOLDS (HH)	**1 776 309**	**3 788 644**	**20.8**	**745 531**	**688 928**	**-2.0**	**129 097**	**727 984**	**54.1**
INTEREST & RENT	61 446	3 229	**-52.1**				6 708	575	**-45.9**
GRAND TOTAL	**1 209 290 690**	**1 605 926 519**	**7.3**	**688 642 504**	**855 667 302**	**5.6**	**328 189 115**	**471 399 912**	**9.5**

	North West			Northern Cape			Western Cape		
	2016/2017	2020/2021	% Annual G	2016/2017	2020/2021	% Annual G	2016/2017	2020/2021	% Annual G
COMPENSATION OF EMPLOYEES	**239 409 391**	**311 013 425**	**6.8**	**182 080 412**	**244 808 136**	**7.7**	**594 689 654**	**729 515 471**	**5.2**
BASIC SALARY	138 569 680	202 911 859	10.0	112 185 355	145 473 767	6.7	373 786 442	475 677 050	6.2
S&W: OTHER	23 707 259	32 223 522	8.0	19 408 708	25 972 657	7.6	61 476 501	72 539 154	4.2
S&W:CMPNS/CIRCM (SHIFT ALLOW)	12 603 724	17 617 040	8.7	12 397 610	17 585 022	9.1	29 237 497	35 222 833	4.8
S&W:OVERTIME	29 039 526	5 939 313	-32.8	11 875 421	19 021 350	12.5	45 313 410	36 918 358	-5.0
EMPLOYER CONTRIBUTION	35 489 202	52 321 691	10.2	26 213 317	36 755 339	8.8	84 875 805	109 158 077	6.5
EMS FLEET	**30 031 478**	**103 248 442**	**36.2**	**93 919 809**	**149 361 840**	**12.3**	**314 378 524**	**320 041 908**	**0.4**
EMS FLEET & OTHER OPERATIONAL EXPENDITURES	9 499 724	92 153 548	76.5	75 396 189	114 798 880	11.1	187 576 055	186 088 043	-0.2
EMS FLEET & OTHER EMS EQUIPMENT CAPITAL EXPENDITURE	13 272 853	2 604 574	-33.4	17 558 463	32 939 513	17.0	99 969 958	94 277 672	-1.5
EMS MEDICAL SUPPLIES, MEDICINE, & INIF & PROT CLOTH	3 211 007	5 506 974	14.4	944 153	1 605 991	14.2	17 291 665	27 094 646	11.9
EMS ICT	4 047 894	2 983 346	-7.3	21 004	17 456	-4.5	9 540 846	12 581 546	7.2
EMS BASE OPERATIONS	**31 389 433**	**13 912 957**	**-18.4**	**6 937 089**	**11 848 681**	**14.3**	**79 304 200**	**110 139 211**	**8.6**
EMS BASES OPERATIONAL EXPENDITURE (INCL. PROPERTY PAYMENTS)	2 169 019	2 094 029	-0.9	144 467	124 415	-3.7	4 904 221	4 892 692	-0.1
EMS BASES - SECURITY SERVICES	12 031 476			447 738	1 951 568		3 206 974	5 536 582	
EMS BASES BUILDINGS, CAPITAL & MACHINERY	3 742 081	1 255 807	-23.9	3 697 987	5 222 843	9.0	54 538 671	83 125 228	11.1
OTHER G&S	6 723 428	5 281 561	-5.9	1 366 379	2 274 927	13.6	9 667 556	9 186 225	-1.3
OTHER G&S	6 723 428	5 281 561	-5.9	1 280 517	2 274 927	15.5	6 986 777	7 398 484	1.4
HOUSEHOLDS (HH)	**247 272**	**1 071 452**	**44.3**	**186 678**	**305 590**	**13.1**	**706 489**	**1 215 803**	**14.5**
INTEREST & RENT	26 705	1 372	**-52.4**	1 288 893	306 763	**-30.2**			
GRAND TOTAL	**296 656 434**	**425 107 909**	**9.4**	**284 988 943**	**405 480 640**	**9.2**	**984 923 320**	**1 154 635 717**	**4.1**