

Response to Proposals by the Association of the Protection of Road Accident Victims

1. Introduction

1.1. The Road Accident Fund of South Africa (RAF) is a constitutionally mandated fund responsible for providing appropriate cover to all road users within the borders of South Africa; rehabilitating and compensating persons injured as a result of motor vehicles in a timely and caring manner; and actively promoting the safe use of all South African roads.

1.2. Section 3 of the RAF Act stipulates that “the object of the Fund shall be the payment of compensation in accordance with this Act for loss or damage wrongfully caused by the driving of a motor vehicle”. The client base of the RAF, therefore, comprises not only the South African public, but all foreigners within the borders of the country. The RAF provides two types of cover, namely personal insurance cover to accident victims or their families, and indemnity cover to wrongdoers.

1.3. The vision of the RAF is to provide equitable and sustainable compensation system for motor vehicle accident victims

1.4. The mission of the RAF is to provide appropriate benefits to all qualifying road users within the borders of South Africa and support the safe use of roads

1.5. While Road Accident Fund cannot legislate, it is in a unique position to influence and set standards for the care of patients injured in road traffic crashes.

1.6. The purpose of this report is to provide information on how Road Accident Fund could promote improved outcomes and limit disability in an organized system of trauma care, using existing sources of information.

2. Road Accident Benefit Scheme and APRAV

2.1. It became clear that the current fault-based system of adjudicating compensation for road accident victims had become unaffordable.

2.2. The Road Accident Benefit Scheme (RABS) was a draft Bill intended to replace the current Road Accident Fund (RAF) and to replace the current insurance-based system of compensation to that of a structured benefit scheme. Parliament withdrew the Draft Bill in August 2020.

2.3. In response to the Draft Bill, the Association for the Protection of Road Accident Victims (APRAV) was formed. APRAV is a Human Rights Organisation that aims to protect the rights of South African citizens affected by accidents on our roads. APRAV will strive to make sure that the new scheme is affordable, practically executable and that the public's legal rights are protected. RAF needs to provide proper medical treatment, rehabilitation, and support to victims

2.4. From the value statements of both RAF and APRAV, it may be derived that there is at least consensus that the 3 variables underpinning success in any business model need adapting to ensure just compensation for road accident victims in a resource constrained environment such as South Africa. These variables are price, volume, and quality.

3. Price, Volume and Quality.

3.1. Price: For the RAF, the cost of delivering on its mission while fixed into an adversarial legal system became unaffordable or deemed unaffordable. Discussion of this metric is outside this brief.

3.2. Volume. South Africa is overburdened with road traffic crashes, and the Road Accident Fund has to pick up the pieces because it deems injury as an accident, i.e. an "unfortunate incident that happens unexpectedly and unintentionally, typically resulting in damage or injury. Discussion of this metric (preventing road traffic crashes) is outside this brief.

3.3. Quality. Quality is defined as the degree of conformance to requirements. The RAF may possess, or have access to data, but it does not have the information (data organized in a usable format) to provide cost-benefit analyses for initiatives aiming at prevention, minimizing preventable disability or fatality, or pro-actively managing future liabilities.

3.4. The process of quality improvement consists of 3 pillars, structure, process, and outcome

3.4.1. Structure refers to stable, material characteristics (infrastructure, tools, technology) and the resources of the organizations that provide care and the financing of care (levels of funding, staffing, training, skills, payment schemes, incentives). In general, South Africa provides sufficient resources to provide adequate trauma and emergency care. Time, distance, and poor allocation of resources to rural and underdeveloped areas are the exceptions.

3.4.2. Process is the interaction between caregivers and patients during which structural inputs from the health care system are transformed into health outcomes. The process is the actual provision of medical care to the patient.

3.4.3. In general, trauma and emergency care in South Africa is organized to provide care in a tiered approach, whereby victims of trauma are managed from the nearest hospital and referred onward in an hierarchical system, a primary health care model not suitable to emergency care.

3.4.4. Trauma and other clinical emergencies are time and skill dependent – the victim will continue to deteriorate (bleeding, oxygen deficit, contaminated wounds) until these threats to life are definitively addressed.

Example. A patient suffering an open fracture of the lower limb need urgent control of bleeding, debridement of dead tissue and stabilization of the fracture, within 6 hours of the injury. These resources are available at secondary or tertiary hospitals, not community hospitals. Transferring this patient to a community hospital, incapable of urgent surgery, from there to a secondary hospital, allows deterioration from bleeding and increased risk of infection, wastes the vital 6 hours and sets the patient up for sepsis, organ failure, death, or years of disability due to malunion, non-union, and chronic sepsis; for which the RAF has to pay.

3.4.5. Outcomes after injury can be measured in terms of health status, deaths, or disability-adjusted life years – a measure that encompasses the morbidity and mortality of patients or groups of patients. Outcomes also include patient satisfaction or patient response to the health care system (Peabody et al., 2006).

3.4.6. All of these metrics translate into a monetary value, to be paid for by the Road Accident Fund. The RAF has the choice to pay for urgent, definitive intervention resulting in limited disability, or lifelong disability due to malunion, non-union, sepsis, etc.

3.4.7. The aim should be to ensure that quality trauma and emergency care is provided at an affordable cost to the RAF and the South African Taxpayer. The literature is replete with

scientific evidence showing the cost-benefit of systematized trauma care and information management (turning data into information).

4. Systems of Trauma Care.

4.1. A Trauma Care System consist of 6 elements

1. Prevention. This topic is outside this brief and not discussed further.
2. Prehospital care
3. Care in the Emergency Room
4. Definitive Care
5. Recovery and Rehabilitation
6. Continuous Quality Improvement.

4.2. Prehospital Care.

4.2.1. Definition. Ensuring timely access to emergency care within the requirements of the patient, extrication, stabilization, starting resuscitation and delivering the patient to the most appropriate hospital within the physiological requirements of the patient.

4.2.2. The so-called golden hour of trauma, where the best outcomes may be achieved, consists of delivering the right patient to the right doctor in the right hospital in the right time – 60 minutes from injury.

4.2.3. Prehospital care consists of raising the alarm, ensuring timely access to care, on scene intervention, and transfer to the nearest, most appropriate destination for definitive care.

4.2.4. Preventability of prehospital deaths. Research showed that 25-30% of fatalities occurring prehospital had survivable or potentially survivable injuries. This is a global problem and not restricted to low-to middle income countries. The key factors determining outcome for potential survivors are total prehospital time, level of intervention on scene, and choice of destination.

4.2.5. Alarm. In South Africa, emergency number exists in name, aided by emergency numbers provided by cell-phone companies. They are routed through call centres to medical responses or police responses. The operational efficiency of these are not monitored, universally utilized, or promoted. South Africa needs a single emergency medical number directly accessing the nearest emergency medical response. Promoting the use of a single emergency number for medical emergencies, and promoting the aim to deliver injured patients to the most appropriate hospital within 60 minutes is an area of influence for the RAF

4.2.6. On scene interventions. There is an ongoing debate on the extent of intervention required on the scene of the incident. What is known is that there is no evidence to show survival benefit for advanced level intervention on scene if the total pre-hospital time is less than 60 minutes. Areas out of reach of the golden 60-minute pre-hospital time must therefore be supported by advanced level prehospital care providers. RAF may influence the deployment of advanced level emergency technicians to rural and under-serviced hotspots

Example: Parktown and Houghton in Johannesburg are serviced by at least 4 emergency medical stations (ambulance stations) providing advanced level emergency care, Orange Farm is serviced by one emergency medical station

4.2.7. Choice of destination. In an exclusive system of trauma care, as in South Africa, the patient is transferred to the nearest hospital, irrespective of the requirements of the patient. In an inclusive system, the patient is transferred to the nearest, most appropriate hospital capable of providing definitive care. In an inclusive system, a hospital not capable of providing definitive care may be bypassed to the most appropriate hospital. The improvement in mortality between exclusive vs inclusive systems is 25%.

4.2.8. Validated criteria exist to determine the most appropriate receiving hospital. These criteria are based on injury characteristics (mechanism of injury) and vital signs which correlate with an overall (prehospital and in-hospital) mortality rate of 10% or more. The triage criteria of the USA Centers for Disease Control are in common use among South African prehospital care providers and in emergency rooms. RAF may promote bypass to the nearest, most appropriate hospital.

4.2.9. Information to support transfer to the nearest most appropriate hospital may be derived by matching ambulance records (scene, vital signs, mechanism of injury, pre-hospital time, destination), and injuries (from hospital records).

4.2.10. In South Africa, ambulance reports are practically standardized. RAF has the right to require or demand legible ambulance records.

4.3. Care in the Emergency Room

4.3.1. Care in the emergency room involves triage, assessment, initiation of definitive care, and transfer to definitive care

4.3.2. Triage. The South African Triage Scale (SATS) is valid for all emergencies, is applied by nurses, and validated globally. SATS is widely used in South Africa. The SATS guides the time to response by a medical practitioner, and scores obtained from the SATS broadly correlate with survival. The score may also be used to identify those who urgently need stabilization and onward transfer. Mandatory use of SATS across South Africa would assist RAF in determining appropriate choice of destination and appropriate onward transfer.

4.3.3. Initial Assessment. The initial assessment is based on the principles of rapid and accurate identification and dealing with the threats to life, identifying potential threats to life, identifying those who require urgent specialist (surgical) consultation, transfer to definitive care (in-hospital or onward transfer) and providing optimal care along the way. This system is based on the post-graduate Advanced Trauma Life Support® Course (ATLS) taught widely South Africa and globally. Most if not all undergraduate courses in emergency trauma care are based on the ATLS course. Research shows improved survival for care provided by ATLS providers.

4.3.5. In South Africa, documentation for the initial assessment is practically standardized because the process of initial assessment is standardized. Documentation for initial assessment includes vital signs, emergency procedures, and above all injury diagnoses.

4.3.6. Excluding surgical interventions and critical care, an estimated 80% of clinical information on a claim against the RAF may be derived from a properly completed initial assessment document. RAF has the right to demand such information as part of claims

management. Writer is experience in assessing these documents to show the nexus between an accident and the injuries sustained.

4.3.7. Proper documentation at initial assessment channels the process of care and limits spurious claims against the RAF. RAF has a right to demand access to these documents for road accident victims.

4.3.8. Transfer to Definitive Care. In general, appropriate pre-hospital triage and choice of destination ensures one stop treatment at the original receiving hospital. Appropriate in hospital triage using SATS and stabilization based on ATLS promotes timely and appropriate onward referral and transport. Out of hospital transfer is documented on a (standardized) ambulance transfer document.

4.4. Definitive Care.

4.4.1. Definition. Definitive care for the trauma victim consists of the surgical interventions and levels of care required to conclusively manage a patient's condition, such as a full range of curative, convalescent, restorative and rehabilitative medical care.

4.4.2. In South Africa, 4 levels of healthcare exist. These are primary health care clinics, community hospitals, secondary or regional hospitals, and tertiary hospitals

4.4.3. It is common for major (tertiary) hospitals to receive minor cases because of a lack of prehospital triage, and the perception of quality care at a tertiary centre. Conversely, transferring a severely injured patient to a community hospital overwhelms local resources forces onward transfer, robbing the victim of vital physiological reserves against bleeding, oxygen deficit and infection.

4.4.4. Designation (and appropriate transfer to) dedicated trauma centres showed a distinct survival benefit (19-25%), particularly for haemorrhagic shock and major brain injury.

4.4.5. To his end, Trauma Society of South Africa developed Guidelines for the Assessment of Trauma Centres in South Africa; whereby resources and skills are categorized so that inappropriate referrals may be limited, and the right patient is managed by the right doctor in the right time.

4.4.6. TSSA level-1 Trauma Centre. The level I facility is a regional resource trauma centre, usually a tertiary care facility central to the trauma care system. Ultimately, all patients who require the resources of the level I centre should have access to it. It must be capable of providing leadership and total care for every aspect of injury, from prevention through rehabilitation, and have 24-hour availability of all major specialties.

4.4.7. TSSA Level-II Trauma Centre. The level II trauma centre is a hospital that is also expected to provide initial definitive trauma care regardless of the severity of injury, with 24-hour medical cover, including the common specialties. However, depending on location, patient volume, personnel and resources, the level II trauma centre may be unable to provide the same comprehensive care as a level I trauma centre. Patients with complex injuries, e.g. requiring advanced and extended surgical critical care, may therefore have to be transferred to a level I centre, after stabilization.

4.4.8. TSSA Level-III Trauma Centre. The level III trauma centre serves communities without immediate access to a level I or II institution. Level III trauma centres must be able to provide prompt assessment, resuscitation, basic emergency operations and stabilisation, and arrange for safe transfer to a facility capable provides definitive trauma care.

4.4.9. TSSA Level-IV Trauma Centre. Trauma facilities which provide basic trauma care for minor injuries, and trauma life support before patients are transferred for definitive care. Most will exist in remote areas where no higher-level care is available, may be a clinic rather than a hospital, and may or may not have a doctor available. However, because of geographical isolation, the level IV trauma facility is often forced to be the primary care provider.

4.4.10. Internationally, Trauma Centre designation ensured role clarity for emergency service providers who were empowered to take the patient to the nearest, most appropriate level of care for definitive care, or allow the most appropriate level of care for stabilization prior to transfer to definitive care. In so doing, survival for major trauma improved by 15-25%, particularly for those requiring control of bleeding and management of major brain injuries, the 2 most common caused of early death after trauma

4.4.11. In South Africa, verification of trauma centres has been a slow process, since trauma centre verification is a voluntary process, money needs to be spent to bring units up to standard, and effort is required to maintain verification status. Unfortunately, seeking justice for inappropriate or poor care in facilities not capable of managing major trauma usually

requires expensive legal claims, out of reach for most South African road users. Conversely, Road Accident Fund has to foot the bill for poor care and unnecessary disability.

4.4.12. Road Accident Fund would serve the interests of accident victims and its own interests well by supporting Trauma Society of South Africa to ensure trauma centre designation by regulation

4.5. Recovery and Rehabilitation

4.5.1. **Definition.** Rehabilitation is a set of interventions needed when a person is experiencing or is likely to experience limitations in everyday functioning due to ageing or a health condition, including chronic diseases or disorders, injuries, or traumas.

Examples of limitations in functioning are difficulties in thinking, seeing, hearing, communicating, moving around, having relationships, or keeping a job. Rehabilitation is an essential component of universal health coverage along with promotion, prevention, treatment, and palliation.

4.5.2. Writer is only able to comment in broad terms on rehabilitation, in support of experts in the field.

4.5.3. Rehabilitation should start on day 1 after injury and should be continued till maximum medical improvement has been reached, where after impairment and permanent disability can be determined.

4.5.4. Rehabilitation is a multi-disciplinary process, requiring the disciplines of physiotherapy, occupational therapy, clinical psychology, and social work interacting with medical professionals.

4.5.5. Road accident victims are commonly recommended to undergo rehabilitation at the time of finalization of a claim against the Road Accident Fund. This rehabilitation could only be compensatory to manage disability, rather than early rehabilitation, which is vital to ensure maximal medical improvement to minimize disability.

4.5.6. Progress in rehabilitation may be quantified using multi-disciplinary systems of measuring functional outcome, many of which are internationally validated. Such progress

during acute care would allow appropriate measurement of resources allocated for disciplines utilized, extent and length of intervention.

4.5.7. It is for the relevant professional societies to agree and advise on quantifiable and verifiable system measuring functional outcome to be provided to the RAF. RAF has a right to such documentation for road accident victims.

4.5.8. Ongoing medical care requires documentation of the medical background to managing recovery and disability. Reports may be standardized to report on each injury or complication sustained till maximal medical improvement has been achieved. Standardized reports need to be developed by professional societies to meet the needs of the RAF

4.6. Continuous quality improvement.

4.6.1. Definition. Continuous quality improvement (CQI) or total quality management (TQM) is a seven-step process that consists of the identification of desired knowledge, design of appropriate measures to obtain the necessary assessments, measurement, investigation of the measurements to find trends and best practices, return of that information to those who can effect change, implementation of change in practice to increase the incidence of best practice, and then remeasurement to assess the program of change.

4.6.2. CQI moves performance in a system of care away from individual performance or failure of performance towards a system of trauma care

4.6.3. Cost of quality (COQ) is defined as a methodology that allows an organization to determine the extent to which its resources are used for activities that prevent poor quality, that appraise the quality of the organization's products or services, and that result from internal and external failures.

4.6.4. In general, the cost of quality initiatives in service organizations amount to 5% of the budget, while managing errors account for 35 % of the budget.

4.6.4. Road Accident Fund cannot forever be the funder of care and compensation without intervening to ensure affordable quality. Blindly funding the consequences of poor care is a recipe for the current financial constraints in which Road Accident Fund finds itself.

4.6.5. According to the International Standards Organization, the principles of quality management are.

- Customer focus.
- Leadership.
- Engagement of people.(key stakeholders)
- Process approach.
- Improvement of quality (continuous quality assurance).
- Evidence-based decision making.
- Relationship management.

4.6.5. The key to manage quality is to measure performance – “what gets measured gets done”

4.6.6. A performance indicator or key performance indicator (KPI) is a type of [performance measurement](#). KPIs evaluate the [success](#) of an organization or of a particular activity (such as projects, programs, products and other initiatives) in which it engages. In practice, KPI's reflect the 20% of effort that determines 80% of the outcomes

4.6.7. From the preceding chapters, Key Performance Indicators may be derived from documentation commonly used in South Africa.

4.6.8. Collecting data into a system of performance management should not demand another set of forms to be completed; but organizing existing data into information. Existing documentation required by the Road Accident Fund would not provide such information

4.6.9. For trauma, practically all information generated may be quantified and linked. It leads RAF to promote and support trauma databases which already contain the information required for a valid and objective assessment of the quality of care provided to road accident victims. These databases are known as trauma registries.

4.6.10. Definition. Trauma registries are databases that document acute care delivered to patients hospitalised with injuries. They are designed to provide information that can be used to improve the efficiency and quality of trauma care because the Key Performance Indicators for trauma care are entered in an organized fashion.

4.6.11. These trauma registries are based on the documentation alluded to in the preceding chapters.

4.6.11. Several large trauma registries exist in South Africa, and the total case numbers entered into a registry for one organization approaches 1 million victims of road accidents. Multiple research publications flowed from these trauma registries, placing South Africa as a world leader in the science of trauma care – they should also be available to establish standards for the care of victims of road accidents

4.6.12. Using trauma registries, distinguishing quality care, adequate care and poor care is possible. RAF may obtain this information, preferably at the cost of supporting the management of these databases. There is a constant struggle to fund these databases, because of costs to code and enter data. RAF has the opportunity to obtain management information, and assist research, which would in turn benefit the customers of the RAF -the victims to road traffic accidents

J Goosen