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ORIGINAL ARTICLE

Financial medicine: A multi-dimensional concept moving towards contextually specific working definitions for use in the South African prehospital setting

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ABSTRACT

Introduction: The phenomenon that has been described as Financial Medicine has been occurring within the South African Healthcare sector for at least the last decade. Despite the ongoing effect of this phenomenon, there is no organised body of knowledge or formulated working definitions to guide knowledge sharing and theorisation within this research focus area. The practice of Financial Medicine exerts a deleterious effect on the South African prehospital healthcare system, and represents an area in dire need of focused research efforts. Establishing appropriate working definitions and associated taxonomy is an important first step in supporting further research efforts into this aspect of South African prehospital healthcare systems.

Methods: A qualitative research methodology following a constructivist grounded theory design was used. Participants voluntarily consented to be enrolled into one-on-one in-depth interviews, and were selected using purposive and theoretical sampling techniques. Data was subjected to validated coding procedures and analysed using the constant comparative analysis approach, analytical diagramming, and supported by researcher theoretical sensitivity.

Results: A working definition for Financial Medicine is provided. Six new terms are introduced, with associated working definitions, namely Financial Medicine Practices, Treatment-based profiteering, Cost-of-care-aversion, Personal-gain-at-patient-expense, Money-racketeering-in-healthcare, and Impoverishing-healthcare-earning.

Conclusion: The working definitions and suggested taxonomy presented in this article are the first step in formally conceptualising and theorising the phenomenon of Financial Medicine, in order to support further research and collaboration in this space.

African relevance

The phenomenon of Financial Medicine is an understood, yet poorly researched aspect of South African prehospital healthcare services. It is unknown whether such a phenomenon is prevalent within the wider African context, which suggests the need for further focused research into this phenomenon.

This research seeks to make a significant contribution to the understanding of the multi-dimensional nature of Financial Medicine Practices within the South African prehospital domain and to encourage similarly focused research within the wider African context.

The establishment of a working definition and associated taxonomy for Financial Medicine will support further research efforts within the wider African prehospital and healthcare domains. Initiating effective knowledge management strategies is essential in supporting and co-ordinating research efforts that can benefit the specific, and wider African healthcare systems.

Introduction

Problem formulation

The phenomenon that has been described as Financial Medicine has been occurring within the South African healthcare sector for at least the

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last decade, with anecdotal stories replete within the prehospital space [1]. Despite this apparently common experience, there has been no organised effort to define and develop the term 'Financial Medicine' in a manner that adequately captures and explains this concept. Principally the term Financial Medicine has been used to describe "the delivery of a health-related service and or the performance of medical interventions where the generation of financial gain or profit is viewed as the central focus of the provider's activities and rather than the patient's wellbeing" [1]. However, this description seems insufficient in describing the complexity of the activities contained in the concept of Financial Medicine. In fact, it appears that a whole taxonomy of terms in this area is absent.

The availability of a taxonomy of terms would support meaning making and understanding of this phenomenon, which in turn would begin the process of formalising the theoretical existence of the phenomenon, and thus open the door to the establishment and development of an identifiable body of knowledge and subsequent effective knowledge management within the South African and wider African context [2–5]. Given the intractable link between etymology and epistemology, in that language is the medium through which knowledge can be understood, communicated and analysed, it would seem that it is only fitting that efforts are made to establish a workable taxonomy specific to the phenomenon that is currently called Financial Medicine within the South African and wider African context [4,6,7].

Moving toward a shared understanding of the phenomenon of Financial Medicine, as well as the taxonomy associated with it, will support prehospital care providers and researchers in their efforts to describe, explain and communicate their understanding and experiences in a more cohesive way [4]. Essentially, having a taxonomy to describe Financial Medicine is the first step toward being able to generate shared mental models that would support collaboration within the South African and wider African context [4,5]. Establishing shared mental models and language cultures within a specific community is shown to enhance the knowledge building and sharing, around a given topic of focus, within that specific community, which is in this instance the South African setting, which in itself is embedded in the wider African context [4,5]. The need to establish shared mental models is pre-eminent to enable further research into this phenomena within the South African, African and Global context that is occurring within the South African prehospital healthcare environment.

The paucity of available literature makes it difficult to fully appreciate the negative impact that Financial Medicine practices have on healthcare delivery and patient outcomes within the South African and wider African context. Enabling the pursuit of such research in a manner that would capacitate collaborative efforts between African countries is essential to adequately addressing this burgeoning problem. Furthermore, while it remains largely unknown what is taking place in other African countries, with regard to Financial Medicine practices, the ongoing emergence of prehospital emergency medical services (EMS) systems across the African region through public and private partnerships suggests that there is a real potential for similar issues to present in these young systems.

This article intends to make an argument for the necessity to develop a consensus on the meaning and definition of the term Financial Medicine, as well as to suggest the need for the development of an associated taxonomy to be applied within the South African prehospital healthcare space and adopted into the wider African context. While this article cannot provide a definitive meaning for the term Financial Medicine, a working definition will be presented for critique, testing and evaluation. Additionally the term Financial Medicine Practices and associated taxonomy will be presented, which are not asserted as definitive but rather presented for critique, testing and evaluation with the hope of establishing a workable taxonomy that can be used within the South African and wider African context.

Research purpose

The research study from which these findings emanate was not initially intended to explore the concept of Financial Medicine or the prevalence of Financial Medicine Practices. This article presents incidental findings that are the outcomes of a study with a grounded theory research design. In the process of data analysis by way of coding procedures, a sub-category was generated that was not reported in the primary findings of the study. Given the prominence of the notion of Financial Medicine that emerged, the authors have elected to present their findings on this topic in a separate paper, in the hope of stimulating further academic inquiry and discourse, with the end goal of determining a consensus definition and associated taxonomy.

Methods

Qualitative approach and research paradigm

The findings presented in this article emanate from a constructivist grounded theory study that aimed to explore and understand the relationship between ethical leadership and doing Good Work. The primary findings of that study resulted in the development of an interventional leadership strategy called the 'System of Caring' which has been previously published [8]. During the iterative data analysis, and the application of the constant comparative analysis model, a sub-set of incidental findings emerged that were not directly included in the formation of the conceptual theory that is the 'System of Caring' [8–10].

Researcher characteristics and reflexivity

The primary researcher is an Emergency Care Practitioner (ECP) who has been working in the South African EMS for over 10 years, with additional experience in the private, public and health professions education sectors. The primary researcher's work experiences have resulted in exposure to the phenomenon of Financial Medicine, which subsequently enabled the primary researcher to apply relevant subject matter knowledge and expertise during the data analysis procedure, which is instrumental in the constructivist grounded theory research approach [9,10].

Context

The primary research took place within the geographical regions of Johannesburg and Mogale, involving voluntarily participating prehospital care providers from both public and private agencies. It is worth noting that within the South African prehospital context there are publicly funded and privately funded EMS agencies that operate to service accidents and emergencies, as well as inter-hospital transfers. Publicly funded EMS agencies are state run agencies administered at a provincial level, while privately funded EMS agencies are business enterprises that are supported through partnership with the private hospital networks, and funded through claim submissions against private health care insurance schemes.

Sampling strategy

Ten prehospital providers voluntarily consented to participate in one-on-one in-depth interviews, which were audio recorded for transcription. Initially participants were purposively sampled, however as data analysis began, theoretical sampling was applied in response to findings emerging from the data analysis procedures [9–13]. This article presents incidental findings of a primary research project and as such, a comprehensive overview of this sampling procedure can be found in the primary publication of that research [8].

Data collection methods, instruments and technologies

A semi-structured interview protocol was used to facilitate interviews. This interview protocol was adapted in response to the participants' narratives during the interviews, as well as in response to preliminary findings of initial interviews [9,10,12,13]. At the same time, ongoing memo writing was conducted, and incorporated into the data analysis procedures [9,10]. The researchers applied theoretical sensitivity throughout the data collection and analysis processes in order to explore and understand the incidental findings pertaining to the phenomenon of Financial Medicine [10,12].

Ethical issues pertaining to human subjects

Ethical clearance for research involving human participants was obtained from the St Augustine College of South Africa Research Ethics committee for the purpose of interviewing and audio recording research participants. Informed voluntary consent was ensured by providing participants with an approved research information letter, and obtaining written consent for interviewing and audio recording. All data collected was stored as encrypted files that were password protected. Only the research team has access to these files.

Data analysis

Interview transcriptions were analysed in three distinct phases of coding using accepted manual coding practices, and in conjunction with the ongoing application of the constant comparative data analysis method [9,10]. Data analysis generated analytical labels that were then grouped into 6 category labels and subsequent themes, which have been reported in the primary study [8]. Within the category label 'Surviving in EMS' there was a collection of analytical labels relating to the phenomenon of Financial Medicine that led to the generation of two sub-category labels. One sub-category label reflected the link between Financial Medicine and Moral Injury which falls outside the scope of this article. The other sub-category label reflected the multi-dimensional nature of Financial Medicine, which is the focus of this article.

Techniques to enhance trustworthiness

The precepts of dependability, credibility, confirmability and transferability were primarily achieved through the process of data triangulation [9–11]. Data triangulation was achieved by incorporating interviews, field notes, member checking, and memo writing in the data collection and analysis process [14,15]. This was further supported by the observation for data saturation throughout the data collection and analysis process [14,15].

Results

When reviewing the raw data and applying a recognised three stage coding procedure that was paired with a constant comparative analysis approach, the researchers began to form an impression that the concept of Financial Medicine within the South African prehospital sector was multi-dimensional in reality, which contrasted with the current theoretical formation [1]. However, as participants shared their experiences and stories it became evident that the manner in which Financial Medicine was experienced varied significantly depending on the specific prehospital environment within which a given participant worked in. This variation supported the idea that Financial Medicine is a multi-dimensional concept. In light of these observations, and drawing on the experiences shared by the study participants, the authors would suggest the following working definition for the term 'Financial Medicine':

> Financial Medicine is the phenomenon in prehospital healthcare whereby people, processes and systems are geared toward prioritising financial gain at the expense of the best interest of the very same people, processes and systems in which this occurs, through unethical or exploitative practices, which may or may not result in harm.

The above definition has been formulated to better convey the fact that within the South African prehospital sector Financial Medicine is an umbrella term that serves to encompass any and all activities that seek to generate financial gain through unethical practices, while also recognising that the activity of Financial Medicine, in and of itself is regarded as unethical. Similarly, within the South African prehospital sector, the term Financial Medicine should also further encompass any sociopolitical or economic activity within the healthcare sector that would exploit people as a means to reach the end of financial gain. An additional requirement for a consensus definition of Financial Medicine is that it not only addresses the negative impact of the phenomenon on the recipients of care, but also the people, processes and systems, in other words the culture, inside EMS that is associated with these exploitative practices. The authors acknowledge that the suggested definition does not sufficiently address the latter requirement for the definition of Financial Medicine, however the suggested definition was left unchanged as the authors addressed this additional component in the term Financial Medicine Practices, which is discussed below. Furthermore the authors recognise that there may be yet unknown dimensions that need to be discovered through further research and subsequently incorporated into this working definition at a later stage.

When exploring the complexity of activities embedded within Financial Medicine in the South African pre-hospital space, there were essentially three dimensions that became apparent in respect to the way Financial Medicine was understood and experienced by the participants which led to the conception of the term Financial Medicine Practices. The authors suggest that while Financial Medicine would be considered the umbrella term that describes the phenomenon, the need for a term that expresses the idea of specific processes and activities related to this phenomenon is necessary. In response to this the authors suggest the following working definition for the term 'Financial Medicine Practices';

> Financial Medicine Practices are premeditated activities and mechanisms within prehospital healthcare work systems that are used to deliberately and opportunistically exploit people, processes and systems for the purpose of maximising profit extraction throughout the healthcare delivery model.

Financial Medicine Practices, within the South African prehospital space, are specific activities and processes that aim to exploit the patient, healthcare worker or healthcare system for the express purpose of financial gain, and may or may not be perpetuated by people, processes or systems embedded in the prehospital care sector. Applying this working definition allowed for the identification of three dimensions of Financial Medicine Practices, which are presented below:

1) Exploiting patients for financial gain
2) Exploiting resources and process for financial gain
3) Exploiting work force for vicarious financial gain

While these three dimensions of Financial Medicine are interrelated, there are discrete differences in how these operationalise as Financial Medicine Practices in the South African prehospital space. These discrete differences are realised through appreciating the actors involved, and the dominant environments in which they were acting. These three dimensions are explained below with suggested taxonomy.

Exploiting patients for financial gain

Essentially this dimension is comprised of two opposing, yet connected, activities that are aimed at maximising the South African

emergency service providers' profit potential. The one activity is the incurring of treatment costs against the patient or medical insurer by means of subjecting the patient to healthcare that is unwarranted or in excess of what is required to provide safe and effective care for a given illness or injury. This practice appears to be mostly prevalent in private sector EMS. Given the relatively small sample size of the study, this would have to be further researched to determine if this is a widespread, commonplace practice within private South African EMS agencies. Participants recounted a variety of experiences where patients were subjected to a treatment regime or process for the express purpose of generating a higher billing profile. To put it plainly, providers would do more to the patient so that they could bill the patient for more and maximise the amount of money that can be made out of a single patient encounter. Below is an example from the data of this type of Financial Medicine Practice.

'I came across a couple of smaller services on accidents, and they were purely driven by giving the patient, patient treatment that was maybe not warranted with the aim of getting the financial gain out of that. So you would have a lesser qualified person on a response car driving past to a call administering analgesic to a patient which might not have required that. You know just to get that patient that you can bill them at a high level.'- Participant 3

'…they would push in the sense of making you sit with the patient. I understand that's fine; you want to give them the utmost care. Again you would get into shit if you didn't get enough ILS [Intermediate Life Support] patients, but why am I going to make him ILS? If he doesn't need a line, [Intravenous Drip] why must I do it?' –Participant 9

Given the specific dynamic whereby the patient is specifically subjected to treatments and procedures for the purpose of generating an increased billing profile we would like to suggest the following term to express this activity:

Treatment-based profiteering

The opposing side of the same Financial Medical Practice involves the process by which the healthcare provider will withhold or significantly delay necessary treatment or intervention with the aim of avoiding costs incurred in providing care to patients that are unable to pay for that care. This was primarily described as occurring in the South African private EMS agency setting in relation to non-insured patients. Again, this would have to be further researched to determine if this is a widespread, commonplace practice within private South African EMS agencies. The below quote illustrates how this is operationalised and experienced by prehospital care providers;

'At the time it was frustrating but eventually you get very used to it and you follow the rules and eventually you don't go to anything unless you can make money from it. Sometimes you'll even withhold treatment if you can't make money from it.' – Participant 2

'It's you're not good enough for this treatment. You're not worthy enough. Oh you don't have medical aid. You'll have to wait for government. But I asked for an ambulance. It's in the patient's right's charter to get access to emergency services. But you will wait to get an ambulance… I feel like we go quickly to those calls where we know that it's just a money thing'- Participant 7

Given the specific dynamic whereby the treatment is significantly delayed or withheld for the sake of avoiding costs that become unrecoverable for the given EMS agency, we suggest the following term to describe this activity:

Cost-of-care-aversion

Both activities exist along a continuum that places the financial interests of the EMS agencies above the clinical care needs of the patient. The full impact and incidence of these activities remains currently unknown, and should be a key focus area for further future research.

Pursuing financial gain at the expense of good practice and stewardship of resources

In this dimension, there appeared to be two primary Financial Medicine Practices that centred on wasteful use of resources and funds within the South African pre-hospital sector. In the first instance participants described how there was a culture evident in the public sector workforce, where workforce simultaneously campaigned for better wages while also neglecting their professional duties. Given the relatively small sample size of the study, this would have to be further researched to determine if this is a widespread, common place practice within public South African EMS agencies. Participants described how there was a culture of apathy toward the needs of the patient, or toward fulfilling the duties of the job, coupled with a persisting attitude of constantly fighting for more money. The following quotes are an example of this;

Don't be in it just for the money. At the end of the day, you're there to save people's lives and properties. You're not there to earn a salary, you're there to save people.'-Participant 1

'People are fighting now for money and allowances and things like that. They're not fighting for better equipment, radios and equipment etc. Everybody is fishing for money.'-Participant 10

In order to capture the juxtaposition of the fight for money, in the face of their own apathy or neglect for the patient we would like to suggest the following term to describe this activity:

Personal-gain-at-patient-expense

In the second instance some participants described a process in the South African prehospital sector, where they had experienced corruption in government tender processes where healthcare funding was funnelled away from the intended purpose toward a more nefarious end. Allocations were made in a contract award process that did not align with the requirements of the job at hand leaving the end users, as providers and patients, without much needed supplies. Another dimension of this described by the participants in the South African prehospital sector was concealed 'kick-back' systems that delayed emergency service delivery to the public. Given the grievous nature of these allegations, participants were not willing to cite specific examples or instances of this for fear of incrimination by association- this despite the assurance of anonymity. Below is one account that partly demonstrates this Financial Medicine Practice:

'No, it's happening. We've had divisional chiefs getting money backhandedly from private services that I know of and I've seen. It's been reported, nothing gets done. The crew see it… he does it so let's all do it. Let's wait for the tow trucks to send for it before we turn out.'- Participant 1

'I feel like the system is abused … I think everybody. The people, the patients, the company. They don't' say this isn't necessary, they need the money so it's fine, go transport, we need the money we're going to bill them. So I think everybody is a factor in misusing them.'- Participant 9

Capturing the apparent layers of healthcare based corruption is important to conveying the full meaning, and so the researchers encourage that further research be undertaken to explore the full scope and effect of these activities within the South African prehospital sector. At this time, using the data available we suggest the following term to describe this activity;

Money-racketeering-in-healthcare

These Financial Medicine practices describe activities that seek to maximise financial extraction from the healthcare delivery process, and at this time appear to be heavily embedded in the processes, procedures and systems that are utilised within the public prehospital sector. The extent of these activities is beyond the data of this study, however the

researchers assert that the results of this data represent a credible signal that warrants further investigation.

Exploiting the workforce for financial gain

Some South African EMS agencies will remunerate staff at a significantly lower industry rate with the aim of sparing profit margins. As the employer cuts back on provider salaries, there appears to be an increase in performance based remuneration strategies that require providers to achieve set targets in order to earn a full salary. Compounding this shift in workflow is the resultant need for providers to then undertake previously discussed Financial Medicine practices in order to achieve these targets, or face punitive measures. This appeared to be predominantly occurring within the South African private sector EMS. While the sample size of this study cannot be used to draw conclusions on the entire private EMS sector, these findings are still indicative of a worrisome trend that warrants further investigation. The need for further investigation is furthermore supported given the impact this Financial Medicine Practice can have on work ethic and overall professionalism. Among the participants there seemed to be a general sense that remuneration levels within most South African private EMS agencies were insufficient in the face of the cost of living, and that this was perceived by participants as a mechanism by some South African private EMS agencies to protect profit margins. The various activities described above are illustrated in the below quotes;

Quotes relating to poor pay:

'So for instance they pay you a standby allowance so that they can overwork you. So that they can work you longer than your 12 h shifts. They do it in 72 h, sometimes longer. But they give you a standby allowance which means they pay you for an overtime which means you accept the risk so it's something you also sign in your contract. It's a little loophole they use to overwork the crap out of everyone and get the maximum, you know minimum input from their side and maximum output in workforce.'- Participant 2

Quotes relating to performance targets:

'I think it all goes back to top management and making money for the companies and it's like we're first ambo [ambulance] and we need to take this and this and, this, it's regarding management and stuff. Back then okes didn't care. You get on scene, you're first ambulance, okay we still talk, you didn't think about finances and how much you need to transport. Now that's all that's put on you is this pressure of if you don't transport so many there's going to be consequences.'- Participant 9

"[redacted] (A private EMS agency) *is really focused on this thing called PCH, Project Coming Home. The group falls underneath them, there's this big thing that we have to have a very high percentage of patients that we bring to [redacted], so it's more that they focus on and we get into trouble if our PCH is low'*- Participant 7

The specific dynamic of constraining prehospital care provider salaries with the intention of trying to reduce costs and maximise profit margins brings us to suggest the following term:

Impoverishing-healthcare-earning

The researchers emphasise that these suggested terms and explanations are intended to serve as a working definition and taxonomy, and by no means definitive or rigorously tested. The working definitions and taxonomy are the result of observation and induction, using a constructivist grounded theory approach, and are presented here for the purpose of opening up a line of research inquiry, inviting critique, testing and evaluation. Table 1 summarises the suggested terms and suggested meanings, thus introducing a starting point for a Financial Medicine taxonomy.

Table 1
Suggested taxonomy for Financial Medicine.

Suggested term	Suggested working definition
Financial Medicine	The phenomenon in healthcare whereby people, processes and systems are geared toward prioritising financial gain at the expense of the best interest of the very same people, processes and systems in which this occurs, through unethical or exploitative practices, which may or may not result in harm.
Financial Medicine Practices	Activities and mechanisms within healthcare work systems that are used to deliberately and opportunistically exploit people, processes and systems for the purpose of maximising profit extraction throughout the healthcare delivery model.
Treatment-based profiteering	Whereby a patient is specifically subjected to treatments and procedures for the purpose of generating an increased billing profile
Cost-of-care-aversion	Treatment is significantly delayed or withheld in order to avoid incurring costs that would be unrecoverable due the inability to obtain financial remuneration for services rendered
Personal-gain-at-patient-expense	Whereby the primary motive of the healthcare provider is the securement of remuneration in a manner that leads to a dereliction or degradation of professional duties
Money-racketeering-in-healthcare	Healthcare system based financial corruption that aims at maximising profit extraction along the entire healthcare continuum through exploitative and unethical means
Impoverishing-healthcare-earning	Constraining prehospital care provider salaries with the intention of trying to reduce costs for the purpose of maximising profit margins

Discussion

The introduction of a Financial Medicine taxonomy into the South African prehospital space is a key driver toward coordinating and sustaining research efforts and professional progress aimed at ending Financial Medicine Practices [4,5]. Vincent-Lambert et al. provided key insights into a burgeoning problem, however the research fell short of organising the knowledge domain in a manner that supported the uptake of this key issue into the wider activities of the research community [1,4,5].

Similar experiences are being shared in a variety of healthcare settings, but have remained mostly unnamed or ambiguously described. Terms such as 'Upcoding', 'unbundling', 'impoverished healthcare spending' and others, have been used to describe similar, yet discrete activities that are taking place in other healthcare settings [16]. Fundamentally, the process of theorisation and knowledge management is being significantly hampered by the lack of specific terms and the multiplicity of terms describing overlapping activities [4]. For example, 'Upcoding' which has also been described in international literature, refers to healthcare providers submitting billing codes that extend beyond the level of care that is actually provided [16]. This stands in juxtaposition with the South African prehospital space where patients are actually being subjected to treatment modalities and procedures that extend beyond the clinical need of the patient for the sole purpose of generating a higher billing profile. This practice was related by the participants in this research, as well as was also reported in the findings of Vincent-Lambert *et al.* Of interest is the need to establish if the practice of 'Upcoding' is indeed also taking place in the South African prehospital space; this serves as a line of further enquiry that should be explored.

The need for a theoretical conception of Financial Medicine and Financial Medicine Practices is made even more urgent by the increasing evidence of shifting moral perspectives within the South African prehospital space that appear to be facilitated by longstanding oligarchies, embedded in the high level leadership and management structures of South African EMS [1,8,17]. The shifting moral perspectives engender the normalisation of unethical practices at the expense of the moral

health and well-being of the prehospital sector workforce [17,18]. The full extent and impact of this reality within the South African prehospital space is not fully known, and urgently requires further research and enquiry toward the final end point of re-establishing acceptable normative frameworks [1,8].

Accompanying this shift in moral perspectives and the resultant harmful impact on the prehospital sector workforce, is the persisting low rate of remuneration of staff, which the findings of this study suggest is predominantly in the private EMS sector. The impact of low pay on the morale and performance of staff, as well as the subsequent effect this has on organisational culture and work ethic has been previously described as being deleterious [17,19]. While this appears to be a widely shared experience, there is little research that explores or describes this phenomenon within the South African context. Staff retention rates within the South African prehospital environment is a growing problem, thus underscoring the need to explore and understand the connection between Financial Medicine Practices, remuneration and staff attrition rate. Such a research agenda in turn relies on establishing a workable definition and associated taxonomy [4,19].

The formalisation of the meaning of the term Financial Medicine, as well as the introduction of the term Financial Medicine Practices with an associated taxonomy has been undertaken in order to capture the multi-dimensional and layered complexities that appear to be embedded in this phenomenon. Each term presented in the taxonomy is intended to capture a dimension of the embedded processes and activities that are at the heart of Financial Medicine within the South African prehospital sector. Fig. 1 is presented as a symbolic visual representation of the phenomenon of Financial Medicine and resulting Financial Medicine Practices. Using the symbolism of a tree, we have tried to describe what is currently understood about similarities and discrete differences in the terms presented in the working definitions and associated taxonomy. A tree is symbolically used to demonstrate how the phenomenon of Financial Medicine grows and organises at the system level into the operational mechanisms described as Financial Medicine Practices, which are identifiable as 3 main branches with associated practices, as outputs. Embedded in the symbolism of the tree is the fact that the ongoing activities represented in Financial Medicine Practices are essential to sustaining the longevity of the phenomenon that is Financial Medicine, much like the leaves are responsible for feeding light energy to the tree. Furthermore the overlap between the various discrete processes is demonstrated in that all practices sustain the phenomenon of Financial Medicine, as well as support the operationalisation of each specific practice.

The derivation of terms has relied on the experiences shared by those healthcare providers who have been impacted by the practice of Financial Medicine, and thus serves to introduce important concepts to the academic community for the purpose of critique, testing and evaluation toward the end goal of effective knowledge management and theorisation [4,5].

Conclusion

Through the establishment of a working definition, and suggested taxonomy that has been presented in this article, the capacity to support further research collaboration and knowledge sharing within the South African and wider African context, is greatly enhanced. The 8 themes presented by Vincent-Lambert et al. resonate with the taxonomy suggested in this article in that there is a clearly persisting phenomenon that must be named, in order to be further explored and better understood. The working definitions and taxonomy presented in this article are the first step in formally conceptualising and theorising the phenomenon of Financial Medicine, in order to support further research and collaboration activities within the South African and wider African context.

Limitations

It is important to note that this article presents incidental findings of a primary research project that was exploring the role of ethical leadership in doing good work within the prehospital domain, and thus the researchers did not establish data saturation in respect to the concepts that are presented in this article. Similarly, a specific methodology germane to the development of language taxonomies was not applied. The researchers therefore assert that the findings of this article are not intended to be definitive, but rather to serve as a starting point for future research. Furthermore, the lack of patient, auxiliary staff and EMS leadership inputs in the conception of the working definitions and

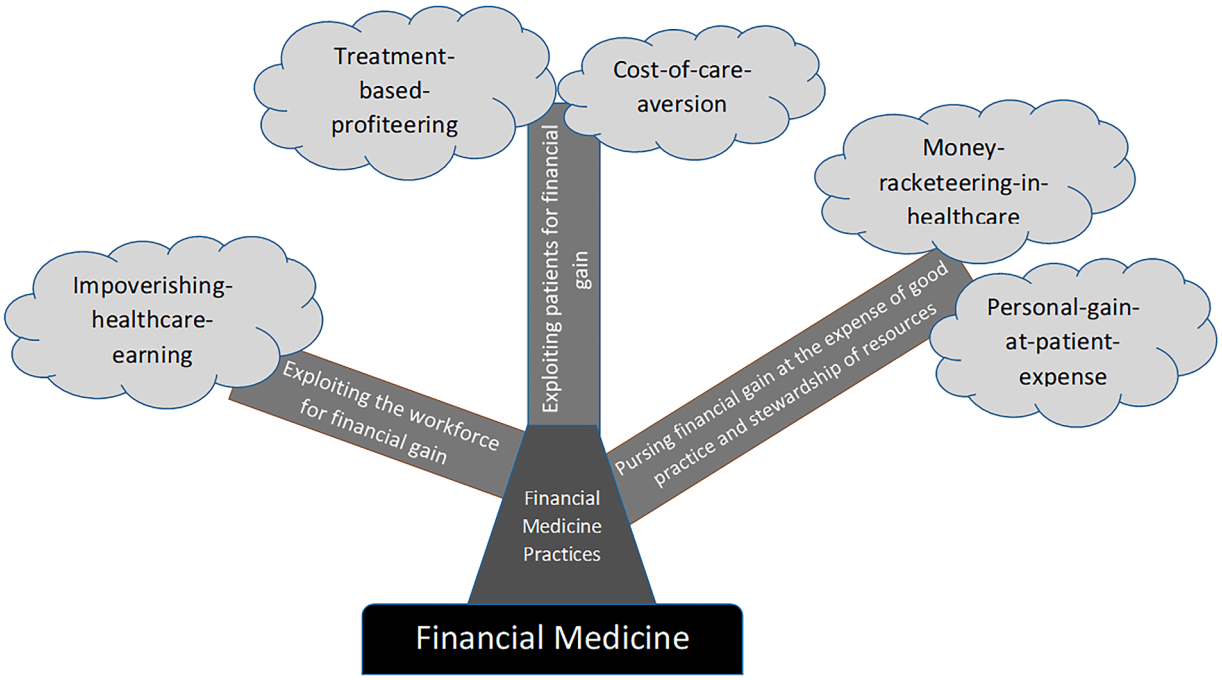

Fig. 1. Symbolic visual representation of the suggested taxonomy.

associated taxonomy presented here must be pointed out. Further research that accommodates these groupings of people may provide valuable insight that would strengthen the validity of future terms and taxonomies.

Dissemination of results

The original thesis, from which this publication was drawn, has been made available on request to the study participants. A copy of the thesis has been placed in the academic library at St Augustine College of South Africa. The authors are committed to sharing these results through local conferences and publication.

Authors' contribution

Authors contributed as follows to the conception or design of the work; the acquisition, analysis, or interpretation of data for the work; and drafting the work or revising it critically for important intellectual content: CM 90 %, JK: 10 %. All authors approved the version to be published and agreed to be accountable for all aspects of the work.

Declaration of competing interest

The authors declare that they have no conflict of interest.

References

[1] Vincent-Lambert C, Jackson RK. Paramedics' experiences of financial medicine practices in the pre-hospital environment. A pilot study. Heal SA Gesondheid 2016; 21:103–9.
[2] Langdridge D. Phenomenology and critical social psychology: directions and debates in theory and research. Soc Personal Psychol Compass 2008;2(3):1126–42.
[3] Davidsen AS. Phenomenological approaches in psychology and health sciences. Qual Res Psychol 2013;10(3):318–39.
[4] Smuts H, Sudakov V, Colombini EL. Effective researcher collaboration: a taxonomy of key factors impacting knowledge sharing. CCIS, communications in computer and information science, 1593. Springer International Publishing; 2022. p. 65–76. https://doi.org/10.1007/978-3-031-07920-7_6. Available from:.
[5] Nickerson RC, Varshney U, Muntermann J. A method for taxonomy development and its application in information systems. Eur J Inf Syst 2013;22(3):336–59.
[6] Tomkins L, Eatough V. Hermeneutics: interpretation, understanding and sense-making. In: Cassel C, Cunliffe AL, Grady G, editors. Handbook of qualitative business and management research methods. Virginia: SAGE Publications; 2018. p. 185–200.
[7] Bodner GM. Constructivism: a theory of knowledge. J Chem Educ 1986;63(10): 873–8.
[8] Mosca CG, Kruger JP. Adopting a 'system of caring' as a leadership strategy toward professionalisation within South African emergency medical services: a grounded theory. Afr J Emerg Med 2022;12(4):489–97. https://doi.org/10.1016/j.afjem.2022.11.001. Available from:.
[9] Charmaz K. Constructing grounded theory a practical guide through qualitative analysis. D. Silverman (Goldsmiths College), editor. Sage Publications. 2006. 1–202 p.
[10] Chun Tie Y, Birks M, Francis K. Grounded theory research: a design framework for novice researchers. SAGE Open Med 2019;7:1–8.
[11] Kolb SM. Grounded theory and the constant comparative method: valid research strategies for educators. J Emerg Trends Educ Res Policy Stud 2012;3(1):83–6. Available from: http://jeteraps.scholarlinkresearch.com/articles/Grounded-Theory-and-the-Constant-Comparative-Method.pdf.
[12] Celliers B. Book review: introducing qualitative research in psychology. Eval J Australas 2009;9(2):54–5.
[13] Ivey J. What is grounded theory? Pediatr Nurs 2017;43(6):34–5.
[14] Baker SE, Edwards R. How many qualitative interviews is enough ? Natl Cent Res Methods Rev Pap; 2012. p. 1–42. Available from: http://eprints.ncrm.ac.uk/2273/.
[15] Fusch PI, Ness LR. Are we there yet? Data saturation in qualitative research. Qual Rep 2015;20(9):1408–16. Available from: http://tqr.nova.edu/wp-content/uploads/2015/09/fusch1.pdf.
[16] Coustasse A, Layton W, Nelson L, Walker V. Upcoding medicare: is healthcare fraud and abuse increasing? Perspect Heal Inf Manag 2021;18(4):1–15.
[17] Fava GA. The hidden costs of financial conflicts of interest in medicine. Psychother Psychosom 2016;85(2):65–70.
[18] Mosca CG, Kruger JP. Financial medicine as a source of moral distress: an unrecognised pathway to moral injury in the South African EMS systems. Afr J Emerg Med 2023;13(4):235–40. https://doi.org/10.1016/j.afjem.2023.09.003. Available from:.
[19] Watson D, Webb R, Birdi A. Coping with low pay: cognitive dissonance and persistent disparate earnings profiles. Theory Decis 2004;57(4):367–78.