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Vitalistic Information Systems in the South African Public Health System: A Transactional Analysis Perspective

By

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Dissertation

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Abstract

This research sets out to understand the impact of Health Information Systems (HIS) on Individuals, Organisations and Society. Using a hermeneutic approach, literature in the field of Health, Public Health, and Public HIS was examined. Case studies of HIS implementations in Southern Africa were analysed and the traits that contributed to a positive impact labelled as Vitalistic, and those that didn't, as Sapping. In order to understand the Public Health System (PHS) in SA, and why such Systems have the effect that they do, the theory of Transactional Analysis (TA) was used. TA was applied in analysing the PHS as a living system, with a mind and body. By examining the mind of the PHS, a number of Pastimes, Power Plays and Games were identified in which the System is engaged in, in order for individuals to gain recognition, status, power over others, or acknowledgement of their existence. These actions are engaged in by the organisation to relieve a sense of insecurity or feelings of inferiority and to make up for a lack of intimacy, recognition or scarcity of resources. The resultant effect is that it saps or drains the organisation of its essential lifeblood and leaves little room for impacting positively on the organisation, the individual and society. To reduce such sapping behaviour, it becomes important for the individual healthcare recipient to develop their responsibility for their own healing experience, and for the system to develop its capacity for fun and creativity. Mechanisms that can be used to encourage this are; more community involvement, structuring of interactions with clients, the provisioning of self-help capabilities, the adornment of public facilities and the introduction of fun technologies such as imaging, touch-screens, and digital pens. It is important, however, that these initiatives do not merely become instruments for manipulation, but that they encourage autonomy. In order to ensure a positive result, the DNA of the host organisation needs to be matched based on their pathology or Games.

This is the first time that TA has been applied in such a way to understand the PHS, and the insights gained may benefit other Developing Countries or PHS that are struggling to make a positive impact on the organisation, individuals and society.

Key Words: Developing Countries, Games, Health Information Systems, Healthy, Information Systems, Power Plays, Public Health System, Rituals, Sapping, Sick, South Africa, Transactional Analysis, Vitalistic.

Preface

Confidentiality

This dissertation is not confidential.

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Plagiarism Declaration

I know that plagiarism is wrong. Plagiarism is to use another's work and pretend that it is one's own.

I have used the Harvard convention for citation and referencing. Each contribution to, and quotation in, this research proposal arising from the work(s) of other people has been attributed, and has been cited and referenced.

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Chapter 1. Introduction

1.1 Background

The health and wellbeing of humans is essential to life, and key to social and economic progress (Better Health in Africa, 1994; Sen, 2000). For most people in first world countries, equitable access to health services is a civil liberty and basic human right (Merritt, 1986; Rath, 2002).

The majority of South Africans depend on the public health infrastructure for health services (Korpela et al., 2004). The public health service ineffectively provides this service at a cost of more than R1 256 per capita as determined from the Trends in Intergovernmental Finances (IGFR.).

A substantial percentage of this expenditure is spent on administration, with very little on service delivery, i.e., through hospitals and clinics (IGFR06, 2006). This has resulted in a “top heavy” structure that is grappling with the challenges of improving the standard of public health in South Africa (SA). The HIV/AIDS epidemic is further challenging SA health service delivery.

Health Information Systems are often touted by software and hardware vendors as the solution to these challenges, offering improvements in efficiency and effectiveness (Littlejohns et al., 2003).

In practice this is, however, not the case according to Hedberg (2003), with substantial amounts of money being spent on Health and Hospital Information Systems, with little or limited benefits to health and health services.

1.2 Research Context

This research is done in the context of Informatics Development for Health in Africa (INDEHELA) and focuses primarily on the impact of HIS on individuals, organisations and society. Following is a graphical representation of this theoretical framework.

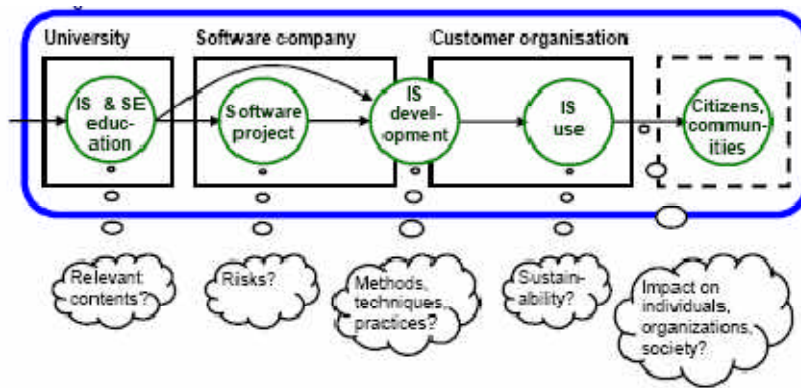


Figure 1 INDEHELA Research context, objects and questions (Korpela et al., 2004)

INDEHELA-Context is a research project led by Korpela (2002), research director at the University of Kuopio in Finland. The project was funded by the Academy of Finland for the period of 2004-2007. Researchers are situated in Nigeria, Mozambique and South Africa. The research questions of the INDEHELA program, as illustrated in Figure 2 are:

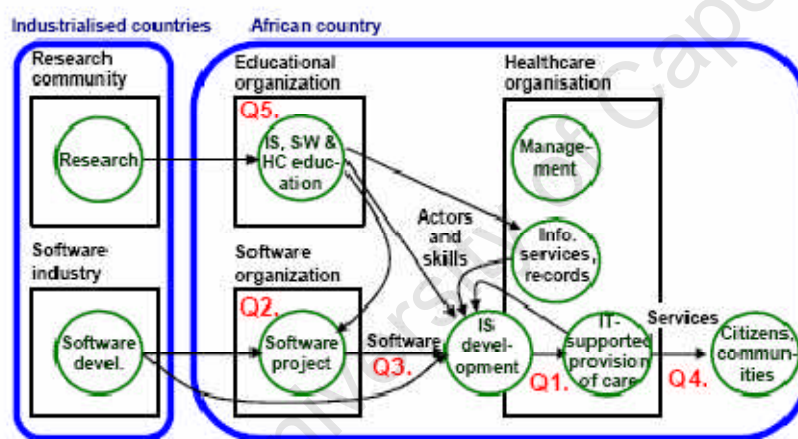


Figure 2 Main chains of activities around ISD for Healthcare (Korpela et al., 2004)

- Q1. "How can African healthcare facilities and healthcare management get (or use) software applications that enable them to use (leverage) ICT to provide better healthcare services for the people?"
- Q2. "What are the potential roles of local information systems (IS) professionals in the software service chains?"
- Q3. "What are the characteristics of appropriate software?"
- Q4. "How to ensure that computer-based information systems in healthcare in Africa will be sustainable and affordable, and will have a positive long-term impact on healthcare services (and health)?"

Q5. *“What kind of education of ICT professionals and healthcare professionals is needed to support these objectives?”* (Korpela et al., 2004:2)

This research examines a limited aspect of question 4 of the INDEHELA context research namely:

“How computer-based information systems in healthcare in South Africa can have a positive long-term impact on healthcare services (and health)?”

For Health Information Systems, this refers to how IS has a positive impact on the organisation and the health of society.

The initial interviews for this research was done together with INDEHELA members from Finland, and INDEHELA later provided travel funding to present part of this research at the IRIS 30 conference in Finland.

1.3 Objective

In public health in SA, HIS implementations are fraught with challenges and often result in achieving little more than financial gain for vendors and suppliers (Hedberg, 2003). This leaves minimal scope for ensuring that such systems contribute positively to the health of the organisation and society.

In order to ensure that HIS has a positive impact in SA health and healthcare, it is firstly important to understand why these systems fail to have a positive impact, and then to look at ways of ensuring a positive impact.

It is clear from existing literature that HIS cannot be examined in isolation, but needs to be considered in the context of the Organisational System in which it is implemented. What is not evident from existing literature is how to ensure a positive impact on the organisation and society.

1.4 Topic Outline

This research aims firstly to broadly examine the subject of Health, Health Information, Health Information Systems (HIS), and the Public Health System (PHS) in SA¹. Secondly, it aims to establish the factors that influence the use of HIS to have a positive impact on its host organisation and society. Thirdly, it defines a methodology for examining the host organisation. Fourthly, using this methodology, it

¹ In this dissertation, when the term System is capitalised, it refers to the Organisational system. A lowercase system refers to an ICT software or technology system.

examines the host organisation in order to try and understand how it “thinks” and behaves. Lastly, these findings are applied in order to identify ways to ensure that HIS has a positive impact on the host organisation and society.

1.5 Scope

The scope of this study is limited to prior research on HIS in developing countries, and specifically in SA, and how these contribute to the improvement of the populations’ health and wellbeing. The focus of the study is the PHS in SA, and specifically Provincial and Local PHS.

1.6 Approach

As with all research, a number of philosophically competing paradigms and/or approaches are evident. Following an analytical approach, writings are systematically analysed, categorised and reiterated as a comprehensive perspective of existing literature (Jankowicz, 2000; Saunders et al., 2000; Sekaran, 2003).

The analytical approach stems from the scientific school; utilising positivistic, quantitative, nomothetic methods with a focus on objectivity, scientific rigour and replication. This approach regards the researcher “*not as a fellow human being who necessarily interacts with and alters the matter under study, but instead as an abstract reasoning machine*” Brody in (Crabtree and Miller, 1992:176). The analytical approach excludes the humanistic role of the researcher, both ideographically and as an interpreter of the material.

The ideographic approach in contrast is “*concerned with understanding the particular situation or process being researched in depth*” (Mingers, 2001:2), looking at what is unique, stressing differences and examining context (Chase-Dunn, 1991). As an interpreter, the role of the researcher is to “understand the phenomena through accessing the meanings” (Orlikowski and Baroudi, 1990:5), based on his beliefs and value system. This approach is often referred to as a hermeneutic approach (Klein and Myers, 1999) and can be seen as a repeating cycle of iteration between understanding and meaning. This survey uses the ideographic or hermeneutic approach.

1.7 Implementation

In order to place this research in the context of existing literature, an overview of existing concepts in HIS will be reviewed in Chapter 2. In addition, existing research

on the application of HIS in sub-Saharan Africa will be analysed. Lastly, based on this analysis, a framework will be presented that will be used to inform the rest of the dissertation.

Chapter 3 will expand on the research methodology that will be used in the dissertation. This chapter provides in-depth information on the research context, design and method, data collection, and analysis method.

In Chapter 4 the collected data will be analysed based on the methodology that was established in Chapter 3. It details the data that was collected, as well the analysis thereof based on the Transactional Analysis perspective.

Thereafter, in Chapter 5, the findings of this research are presented. The distinct differences found between the formal and informal aspects of the Public Health System are described and analysed.

Chapter 6 will outline the implications of these findings for practice, and present some recommendations based on the analysis.

Finally, in Chapter 7, the conclusions arrived at through this research are presented.

“In Medicine one must pay attention not to plausible theorizing,
but to experience and reason together.”

(Quote attributed to Hippocrates)

"If we knew what we were doing, it wouldn't be called research, would it?"

Quote attributed to Albert Einstein (Also to others).

http://en.wikiquote.org/wiki/Albert_Einstein

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Chapter 2. Literature Survey

This literature survey examines current literature in the areas of health and wellbeing, health care, the Public Health System in South Africa, the Public Health *Information System*, and the concept of Vitalistic Health Information Systems.

2.1 Context

The context outlines the purpose and scope, as well as the topic outline which looks at the sources and approach of the survey.

2.1.1 Purpose and Scope

The literature survey precedes the development of the research methodology and forms part of the final dissertation. The purpose of a literature survey is to identify, understand and critically analyse the existing body of information on the topic, and to clarify and justify the primary area of research according to Saunders et al. (2000), Jankowicz (2000) and UWM (2005). The limitations of a literature review, by definition, are that it is based on explicit information contained in literature, and may not include the wealth of tacit knowledge available on this subject in the minds of the individuals and practitioners.

2.1.2 Topic Outline

This chapter comprises a literature review of writings currently available in the areas of Health, Public Healthcare in South Africa, Health Information Systems in developing countries, and design, development and implementation of HIS in SA.

2.1.2.1 Sources

Books and articles for this review came from the University of Cape Town (UCT) library, The Stellenbosch Graduate School of Business library, and my own personal collection. The majority of books that I was able to access on Health Information Systems pre-date the year 2000. Despite their age, the materials provide sufficient background for this review. More up-to-date articles were obtained from relevant journals.

Journal articles were accessed from the excellent source of electronic journals available at UCT as well as copies that are kept in the library and some that required inter-library requests. Previous essays and theses were accessed at the UCT library and by inter-library loan.

For the purposes of this review, the Harvard convention for citation and referencing was used. In addition, a glossary of key terms and acronyms has been included in order to aid readability and provide a context for the terms used.

2.1.2.2 Context

In order to examine the subject of Vitalistic Public Health Care Information Systems, it is important to establish the context of these areas for the understanding of both the reader, and the author. These are fundamental concepts on which this Dissertation is built. The perspectives of other authors in the areas of Health, Health Care, Public Health Care, Public Health Care Information Systems, and Vitalistic Information Systems will be examined.

2.2 Understanding Health and Wellbeing

The concept of health is a misnomer, as it more often than not refers to disease, or the absence thereof (Wikipedia, 2007). Disease can also indicate a healthy body where symptoms are signs that the body is not at ease (Desy, 2007). In the classical approach, these symptoms are treated as a sign of illness that needs to be corrected with drugs, surgery, etc., the focus being on the body (physical and chemical) to the exclusion of the mind and spirit (Goleman, 2004).

A more appropriate term for health is wellbeing or wellness. Wellbeing refers to a balanced state of feeling in body, mind and spirit. An area of wellbeing that focuses on the relationship between a person's spirit, mind and body and how it influences their health is called Psychoneuroimmunology or PNI (Orr and Patient, 2004). PNI indicates a trend towards healing when the person focuses on wellness (and feeling alive), and not just on avoiding disease, pain and death.

From a Quantum perspective, the physical body can be seen as *"composed of a rapidly changing field of pure information... that sustains and influences our physical health"* (Chopra, 2002:Audio Book). Quantum health therefore uses information/systems theory to describe health and illness (O'Donnell, 1989) where the body is described as bundles of information that behaves according to Quantum rules. Based on these theories, it is evident that the traditional practice of Health Care is not the appropriate mechanism. What is of interest from such a perspective is:

1. Who is responsible for the health of the individual/collective?

2. What is the role of the Public Health System in such a Quantum health environment?
3. How can Information Systems aid in fulfilling this role?

2.3 Understanding Health Care

A distinction should be made between the Health System, and Health Care. The Health System can be seen as all the functions (including non-healthcare) that are performed in the context of Health Care (Van Rensburg et al., 1992). Health Care is seen as an external agent (the health care system) preventing, treating and managing diseases in people, and would be more appropriately referred to as the disease-care system.

Practitioners are seen as the “experts” and tend to specialise and use obscure terminologies - this makes it very difficult for recipients to understand their own bodies/minds. Practitioners are trained in medical practice, but spend more and more time on management, finance, law and ethics (Smith, 2001c).

Recipients are seen as “Patients” who seek treatment only when they are ill or have visible/noticeable symptoms. They are discouraged to understand their bodies and the diseases that affect them (Steiner, 1974) and have become willing subjects for medical experimentation (Smith, 2001c).

Chopra (2002) believes that the subject (us, our disease, etc.), and the object of our experience (the doctor, medical practice, etc.) inter-arises in that we co-create the situation. These are considered to be expressions which simultaneously arise from our being. In other words, we give rise to both the internal dialogue (about the disease) and the situation we find ourselves in (the disease, treatment, practitioner, etc.).

A vital aspect of health care as, opposed to disease care, is mental and physical health and wellbeing. To change the current approach requires patients to take responsibility for their own health and wellbeing, and to find out as much as possible about their own health and bodies, and appropriate ways of healing (Orr and Patient, 2004:66).

Patterns of knowing from the practitioner and patient should be combined to create a healing experience (*Professional Practice Model*, 2003). This model is much more aligned to the Quantum health perspective than the traditional approach to health care.

The institution should therefore become one of wellness and healing, and not merely disease care. A critical component of this mode of care is access to the correct/relevant information or patterns of knowledge (*Professional Practice Model*, 2003).

It is also evident that a prevention strategy (health and fitness promotion programs, early detection, etc.) as opposed to disease care is more cost effective and beneficial to recipients (Aldana, 2001; Hugo, 1989).

2.4 The Public Health System in SA

According to van Rensburg, Fourie & Pretorius (1992:2) the health system of a country “includes the total national health care (and therefore all particular health care institutions constituting it)”, as well as “the peripheral matters which are either directly or indirectly associated”, i.e., “the environment in which the health care system is embedded... and the population served by the health care system concerned”. This perspective is the one used in this study, i.e. comprising the entire system.

2.4.1 Service Delivery

Rath (2002) believes that most efforts to improve health on a global scale as defined by the WHO project (Health for all by the year 2000) have failed due to an increasing focus on changes in administrative healthcare and supporting of the global “business with disease”. Private health care in South Africa is not geared to providing environmental health care and proactive treatment of diseases to prevent epidemics, due to its responsibilities to patients and shareholders. These tasks are often left to public health care service providers. This affects the successful monitoring and treatment of classifiable diseases such as HIV/AIDS, Malaria, and TB; and results in a focus on primary health care.

2.4.2 Distribution of Resources

The Public Health System in SA is resourced by only 27% of the country’s health professionals - about 50% of the total health expenditure, yet caters for ± 80% of the country’s predominantly poor population (Korpela et al., 2004) with a budget exceeding R45 billion or 11% of the Government’s budget. This equates to an annual per capita expenditure of ± R1 256 which is well in excess of the WHO

average of R100 in developing countries. Very little of this expenditure ends up in delivering health care.

2.4.3 Redressing the Health Service Delivery Imbalance

Despite these inefficiencies, the government is trying to re-dress these imbalances (between public and private health) through revised funding, increased research, and by accessing the wealth of resources from the private health care industry (IGFR06; Magwaza, 2003).

Some of the revised strategies introduced recently are: Compulsory community services for health care practitioners (Medical, Dental and Supplementary Health Services Professions Amendment Act, Act 89 of 1997.); Fixed pricing for drugs and medicines (Medicines and Related Substances Amendment Act (Section 18A) Medicine Price Regulations South Africa. , 2002); The introduction of a certificate of need to prioritise services in under-serviced or poor areas and the sourcing of a number of Cuban Doctors to supplement local skills (National Health Act, Act 61 of 2003, 2004; , Health Sector Strategic Framework 1999 – 2004.); A possible Social Health Insurance (SHI) (Pearmain, 2005); The option of Hospitals to retain revenue (PFMA, 1999); and directing of increased funding through providing services to medical schemes (Act, 1998).

2.4.4 Issues and Challenges

Allan, Overy, Somhlaba, Tetyana & Zepe (2004) indicate the current challenges to public health service delivery as poor leadership, failed financial management and lack of effective oversight and accountability. In a historical account of reports in the Eastern Cape, they identify numerous cases of ambulatory service malfunction and administrative neglect. Incidences such as a patient dying after waiting more than 7 hours for an ambulance, clinics running out of drugs, more than 9860 vacant posts, only 4 doctors in a hospital that requires 14 and overspending in excess of R6.3 million on the Cuban doctor program, are not uncommon.

Mills et al. (1997) ascribe these challenges to resource shortages and the inequitable and inefficient use of resources, population growth, static private health financing, an increasing burden on the state as a result of HIV/AIDS cases and increases in cost of equipment which exceed CPIX (IGFR06).

The financial and human impact of HIV/AIDS alone are highlighted by Giarelli & Jacobs (2003), who indicate that more than 6 million South Africans are infected, costing the government more than R16 700 per patient annually.

2.4.5 Impact and Sustainability of Health Strategy

Government strategies, and other management challenges have resulted in the emigration of more practitioners; small pharmacies closing down; increased complexities in providing health services; a continuation of the gradual deterioration of public health services (Allan et al., 2004; Fourie, 1999) and health indicators; an increase in household and employer spending on health services (Wadee et al., 2003); and a reduction in life expectancy to 49 years.

It is evident that the government is focusing more attention on the administrative and disease-care aspects, with less emphasis on the needs of the public, and of wellness and prevention (Rath, 2002).

The unintended result may be to further remove the freedom of choice of citizens to receive equitable health services, through increasing financial and resource pressures on private health care industries.

2.4.6 Achievements

Despite the generally bleak picture of poor Health Care service in SA, there have been some successes, albeit requiring isolated cases of individual effort and determination to succeed. In general, access to PHC has improved in the past 10 years, with a number of new PHC clinics having been operationalised.

The PHS in SA is furthermore committed to providing free health services to pregnant mothers and children under the age of 6. SA has also embarked on a program of rolling out free Anti-Retroviral Treatment (ART).

Limited success has also been achieved in the treatment of Malaria and TB, although the emergence of Multi Drug Resistant (MDR) TB has dampened these successes. Lastly, access to the PHS is open to anyone, subject to a minimum payment contribution depending on income.

2.4.7 Alternative Strategies

A number of alternative strategies for improving Health Care delivery have been proposed. These range from a review of the national health policy (Better

Health in Africa) to provide more health information to the public, the development of politically independent oversight bodies (Allan et al., 2004) the privatisation of Public Hospitals (Zelder, 2000), the implementation of Social Re-Insurance (Dror, 2005), larger community involvement, more delegation/autonomy (Oliviera-Cruz et al., 2003) or through structuring according to divisional adhocracies (Unger, 2000).

2.4.8 Structures of SA Public Health Care

The structures of government, although not static, both influence and are influenced by meanings, norms and power (Giddens, 1976). Despite this, models defining structures and governance are useful to provide a snapshot of organisational intent.

In the following discussions, the transitory nature of these structures will be considered. This discourse is not an attempt to examine in-depth the structures of public health delivery. It is merely acknowledging the role that organisational structures, power, politics and finance play in ICT implementation (Korpela et al., 2004; Silva, 1997).

A key influence on the Public Health Structures is the National Health Act (National Health Act, Act 61 of 2003). This act defines three levels of Health delivery in South Africa namely National, Provincial and District Health. Parliament and the constitutional court are above National departments and Districts includes sub-districts.

It also allows for the creation of structures for a National Health Council, National Consultative Health Forum, Provincial Health Council, Provincial Consultative body, District Health Council, Human Resource development and Academic Health complexes, National Health Research Committee, National Health Research Ethics Council, Inspectorate for Health (Health Officers), Office of Standards Compliance, and any technical or advisory committee as may be necessary (National Health Act, Act 61 of 2003, 2004).

At the time of this research, SA is divided into nine provinces, one hundred and twenty districts and thirty-eight regions towards a district health system model (DHS). Municipalities have been further grouped into six metropolitan municipalities, forty-seven local area municipalities and two hundred and thirty-two district municipalities (Mathews, 2003).

The service delivery mechanism of the public sector in SA includes 369 general hospitals, 54 specialised hospitals, 3143 primary health care centres, and a number of support institutions such as medical laboratories (Khotu, 2001).

These hierarchies are entrenched in the new act with the line of command from Parliament→National Health→Provincial Health→District Health (Municipalities)→Hospitals. Mintzberg (1993) proposed a framework for the categorisation of organisational structures. According to Mintzberg's structures, the effect of the hierarchies in the SA Health structures would be like those of a machine bureaucracy, fostering limited horizontal decentralisation, silo thinking and the entrenchment of these bureaucracies.

Gunatunge and Karunanayake (2004:14) found that the *“rigid bureaucracy, impractical top-down approaches in decision-making and communication, use of overly authoritarian power structures, and unrealistic intervention by politicians ... constrained employees to engage in critical examination and self-reflection of their work”*.

The increasingly top-heavy structure shows further intent not to decentralise and focus on service delivery, but to grow and entrench these structures.

2.4.8.1 Performance

Understanding the structure of a government is insufficient to indicate intention to perform. Even though an act may specify compliance, actual delivery is left to individual functions.

Dror & Preker (2005) identified two dimensions of delivery performance that were used in their study to frame the implementation of health insurance (by identifying the best prospects of serving social goals):

Type 1 – Well intentioned and well executed government,

Type 2 – Well intentioned but poorly executed government, and

Type 3 – Poorly intentioned (and poorly executed) government (Dror, 2005).

These types may be applicable to the implementation of IS in government and are interpreted as follows:

Type 1 is identified as most likely to succeed in implementation; however, central top-down control may change the nature of the implementation, with transparency, community ownership & participation, and innovation being affected. This type may

provide a wealth of lessons in different settings on ways government should or should not intervene.

Type 2 questions the government's capacity to support implementation. Government intervention may achieve unintended effects if the organisation is unstable or unreliable. Due to a change in policy or administration, funding for a long-term implementation, may be withdrawn, affecting the sustainability of the implementation. This type may require capacity building depending on the needs.

Type 3 points to corrupt or self-serving governments. In such a type, implementations would be structured to provide direct control and self-serving benefit. Government mechanisms (top down) should be avoided (Dror, 2005).

Lao Tze captured the style of Government succinctly in paragraph 65 of his discourse on Virtuous Government (Tao Te Ching):

"There are two ways of government. One is to be cunning, to act with guile, and to contrive to cheat the people. When this way is used to rule, the people grow in cunning, and contrive to cheat the ruler. The second way to govern the land is to do so without contriving. People so governed are truly blessed, for they are governed with virtue, and virtuous government is fair to all, thus leading to unity."

These types could assist in determining the intent and therefore the social health benefit of introducing information systems in the public health sector in SA. Because of the structure of Health services, different types may be found even amongst the same level of hierarchy.

2.5 The Public Health Information System in SA

The examination of the Public Health Information System cannot be done in isolation, as it is part of, and operates in a health system that offers services as diverse as curative care, rehabilitative care, disease prevention and *health promotion services* (Lippeveld et al., 2000).

The Public Health Information System involves people using and producing information as well as people interacting with storing and retrieving information, whether electronically (using software) or not.

The perspective adopted in this dissertation is that of du Plooy (1999), in that IS can no longer be seen as a by-product of the PHS or society, but that the PHS and society is the Information System.

“...In a non-decomposable (human communication) system, what we call ‘information’ cannot be described apart from that system...” (Thayer, 1993:105).

2.5.1 Health Information Systems

According to Checkland and Holwell (1998), information systems (IS) constitute the orderly provision of information in (and between) organisations which may or may not use ICT.

The term “Health Information System” (HIS) is a contradiction in terms, as the majority of HIS manage and report on information about death & diseases (Leaverton and Masse, 1984). The first historic reference to a HIS dates back to 1416, for the establishment of a register in Nantes to record deaths as a result of the Black Plague (Leaverton and Masse, 1984).

Haux, Winter, Ammenwerth & Brigl (2004) refer to HIS as an integrated collective of standalone Hospital Information Systems (read software), to deliver a coordinated range of services, to enhance effectiveness and efficiency of patient care. This appears as a technological deterministic first-world focus.

In SA, the term has become accepted in general use as a system (or software) that “provides information for the management of a health programme and for monitoring health activities, (which) exists as an integral part of the health system to support the health functions” Lwanga in (Scott et al., 2002).

These information systems software often contain bibliographic (biomedical, behavioural, health services), operational (financial and administrative) and statistical (clinical, demographic) information for various purposes (epidemiology, statistics, management) (Leaverton and Masse, 1984). Minimal evidence is available in the literature of how the health system informs or impacts the healthcare recipients.

2.5.2 The need for HIS

Braa in (Kimaro and Nhampossa, 2005:177) believes that “All countries need a national HIS at least partially based on modern IT, linking the various levels of the health system, and addressing the information needs of *policy makers, managers, health programmes, service providers, staff, and increasingly, patients...*”

The risk of not having this is that “without reliable, relevant HIS, health care managers and providers cannot optimally allocate resources, improve the quality of health services, or address epidemics such as HIV/AIDS” (Braa, 2003b).

Hedberg (2003) added to this that HIS should strike a balance between the public use of health information and a person's right to control his/her own health (and information). Often, however, countries are left with a "data" system, where the real need is for an "intelligence" system (Leaveron and Masse, 1984).

2.5.3 Impact of HIS

Health Information Systems (HIS) (read software) are often touted by software and hardware vendors as a solution to challenges experienced in delivering healthcare, offering improvements in efficiency and effectiveness (Littlejohns et al., 2003).

In practice this is, however, not the case. Lippeveld (Lippeveld et al.) show that Public HIS are more likely to fail than succeed. According to Hedberg (2003), substantial amounts of public funds are being spent in South Africa on Public Health and Hospital information systems, with little or limited benefits to health and health services. The record is not much better with externally funded HIS.

"Most of donor-supported information technology (IT)-based projects developed or implemented in less-developed economies (LDEs) end up as complete or partial failures or unsustainable" (Kimaro and Nhampossa, 2005). The focus of research and implementation of Health Information Systems (HIS) is frequently centred on the effectiveness, efficiency, strategic alignment or delivery of management information by means of Information and Communication Technology (ICT) or computerised systems (Haux, 2004).

In the health sector, even though information systems may display the above attributes, it may still not make a difference in health service delivery or improve the general standard of health of individuals or organisations.

The most important aim of HIS should be *"to enhance patient empowerment and improve the quality of care"* according to Van't Riet, Berg, Hiddema & Sol (2001:1). This perspective, also maintained by Hedberg (2003), is that Health ICT should be utilised for monitoring and improving the health of people throughout their life.

2.5.4 Health Information Needs

Success in maintaining and improving individual health, combating epidemics and diseases, and providing centralised health services in developing countries depends on having the correct information to target interventions effectively.

Fourie (1999) believes that health information is essential to influence or manage the health care system both at macro or micro levels, with numerous initiatives in SA to improve the timeliness and reliability of health and healthcare information.

Three key areas for information in public health in SA are important, namely health care, and monitoring and evaluation as identified by Hedberg (2003) as well as the need for personal health information.

2.5.4.1 Public Health Care Information

The SA Health Act (Paragraph 74-76) defines the need for a comprehensive national health information system that must be coordinated by the national department, and implemented and maintained by provincial departments, district health councils, municipalities and the private health sector. From the act, the purpose of such a system is not clear, however, the minister may prescribe categories and kinds of data as well as the collection mechanism.

From a publication of the Health Systems Trust (Health Systems Trust Up-Date, 1997) it appears as if the intention of such a system would be to “provide accurate information on the health status and trends in health status of the population”.

It is evident from this focus that the need is for computerised software, rather than a functioning information system.

2.5.4.2 Public Monitoring and Evaluation

A further need as derived from the Constitution of SA (Chapter 10, Section 195) is that “Transparency must be fostered by providing the public with timely, accessible and accurate information”.

Hedberg (2003) believes that the free sharing of data and information is gaining political support through the Promotion of Access to Information Act (PAIA) and the recent release of the Census 2001 data into the public domain.

Two areas vital to Public Monitoring in SA health care are financial management, and oversight and accountability (Allan et al., 2004), both of which can be facilitated through improved information systems.

However, looking at the structure, type and maturity of the government, one has to wonder whether an improved financial and accountability information system would be well received and who would be responsible for its implementation.

2.5.4.3 Personal Health Information

Another, often neglected aspect of health information is personal health information such as personal health and wellbeing, nutrition and exercise. Rath (2002) states that public and private institutions should be held responsible for providing essential lifesaving health information to the public, and that its obstruction constitutes a crime against humanity. Despite being controversial in his approach, Rath (2002) does identify, or allude to, the core importance of health information to aid the recipient in improving his health.

2.5.4.4 The state of HIS in SA

South Africa has established a HIS at most levels of Government. At the national level, a National Health Information System (NHIS) committee was established in 1994 by the minister of Health. The purpose was to collect information across all provinces and racial groups on a national level to enable service as well as self assessment. It was structured to collect information in a way that follows the organisational structure of health services.

The system that was established is called the Regional Health Management Information System (ReHMIS). Reasons advocated for its poor adoption are that the system is not user-friendly, that specialist skills are required for its operation, and that there was a lack of an integrated HIS with hospitals and clinics all using their own software (WHO, 2002).

In 2006, the government issued a tender for an Integrated Health Record System, and are currently grappling with the challenges of understanding the requirements for such a system. The plan is to collect Administrative, Financial and Surveillance data. The first step for this system is to establish an integrated electronic Health Record (her) that is linked across public and private health, and across all institutions.

At a district level, a District Health Information System (DHIS) has been established to collect and disseminate the essential datasets required by the NHIS. This initiative was established as a collaborative research project in 1994, and is now in general use across the country (Braa et al., 2007). It has developed over time to include vertical programmes such as TB/HIV. Reasons advocated for its successful adoption are numerous, but can primarily be ascribed to its collaborative process, flexibility in datasets, and local involvement of resources.

At a local level, a number of HIS are in use to manage various aspects of service based information such as Hospital Administration (Patient Administration and Billing or PAAB, Medicom, Meditech, CAS etc.), TB and HIV (Open Source Electronic Medical Record System for Integrated TB And HIV Patient And Treatment Management (OpenMRS) and the Central Recording of All Data from Local Establishments (CRADLE) system for information on mothers and babies during pregnancy. The status of these IS are at various levels of implementation and integration across the country. It should be noted that it is not the purpose of this dissertation to provide a comprehensive review of the state of HIS in South Africa, and that excellent information on this is available on this from the Health Systems Trust (HST) and other sources.

2.5.4.5 Information Issues and Challenges

Hedberg (2003) realises that one of the key challenges for information use in SA is under-utilisation as a result of *bureaucratic incompetence* and/or *organisational power games* as well as lack of *standardisation* and *technical integration*.

Bureaucratic incompetence such as withholding of information, sabotaging information channels and lack of IS can be seen in Allan et al. (2004).

The organisational power games are evident from the following quote by Braa (2002): *“as the network and areas of use grows more actors & more powerful political actors are getting involved – or confronted. They (may) want control over SW (software) & less transparency”* (Braa and Hedberg, 2002:5).

Technical integration and data flows appear as a result of the formalised structures and power issues as identified by Braa & Hedberg (2002). *“Nearly all of the excessive number of data elements collected related to workload, or as one Cape Town City Council official put it, ‘We want to control that the health workers do their job’”* (Braa and Hedberg, 2002:119):119.

Braa & Hedberg (2002) illustrates that *“Information flow follows managerial line function and results in the ‘spaghetti-like’ way different information systems interact. Each organisation collects data independently; reports raw data to its own head office and receives virtually no feedback from managers”* (Braa and Hedberg, 2002:119).

This was not much different in 1995 when Braa & Heywood (1995) identified that there were no common goals or targets for the services and that they worked in

isolation, leading to gaps and duplication of data, and using different target populations.

These power struggles and structures also led to incompatible and competing standards that are defended by a variety of structures and organisations (Braa and Hedberg, 2002).

2.5.5 eHealth

An emerging term used for the delivery of health services through the use of ICT is called eHealth². The concept of eHealth is not only a technology solution, but a mindset for using ICT to improve health and health care (Oh et al., 2005:20).

This is a noble concept; however, one wonders how different the adoption is in comparison to Health Information Systems, Health Informatics, or Health ICT.

eHealth does, however, present a unique opportunity (political and technological) for Government to re-focus the application of ICT to enable a health program or system where information is applied to enhance healthcare service delivery and the health of its recipients and its human environment (What is eHealth?, 2006).

It is not only eHealth that should be focused on improving health and healthcare. Wang et al. (2005:50) indicate that *"IT evaluation studies should investigate how actual applications of HIS affect efficiency and quality of hospital (and health) care...The benefits and impact of HIS should be proved by experience and sound research and the unique nature of HIS should be considered in supplier contracts from inception"*.

2.5.6 Rationality of HIS implementation

Health ICT tends to move towards the hard or rational paradigm (Lerner and Schiffman, 2004). Their theory is that humans focus on this approach, due to a lack of understanding or know-how to create, fix, and maintain life. On the other hand, man does know how to create science and technology which makes it a lot easier to adopt and implement.

Unfortunately, this focus on the rational paradigm, results in computerised environments fraught with socio-political and technological challenges (Braa, 2003a).

² No clear consensus as to a singular meaning of the term eHealth has been achieved by the health industry OH, H., RIZO, C., ENKIN, M. & JADAD, A. (2005) What is eHealth (3): a systematic review of published definitions. *J Med Internet Res*, 7, e1.. This dissertation will not attempt another definition, but will use the term in the context of information systems in health care.

Hedberg (2003:3) believes that *“the development and current state of Health (Management) Information Systems (HIS) in South Africa largely reflect the health sector as a whole”*. Challenges such as the rapid changes in the public sector and the growth in disease, impact on HIS developments *“in a complex, dialectic, technological process”*.

“In practice, rationalist, front-end methodologies seem rather limited in what they can achieve for health IS” (Heeks, 2006:135).

Despite evidence of increasing social, cultural and technological issues and no quick-fix solution to implementing eHealth in a developing country such as South Africa, the government has embarked on an ambitious long-term programme for HIS. This programme is to implement a national integrated health record solution that may cost South Africa in excess of ten billion Rand, with no guarantee of success (Hedberg, 2003).

2.6 Vitalistic Information Systems

From a social constructivist perspective, man is the creator of technology and as such inscribes his values and beliefs in such technologies. The natural approach realises our limitations as man in the understanding of life (*vitae*), and is based on how to work with life and the human body (and society) and not interfere or manipulate it (Lerner and Schiffman, 2004).

The term *vitalism* embraces this concept and is defined by the Free Online Dictionary (Free Online Dictionary, 2005) as *“The theory or doctrine that life processes arise from or contain a nonmaterial vital principle that cannot be explained entirely as physical and chemical phenomena”*. Vitalistic practices are therefore practices that pertain, involve or ascribe to vitalism.

2.6.1 Vitalistic Systems

An information system that is referred to as a vitalistic system is defined as: *A health(y) information system that has a positive impact on its human environment.*

An example of a computerised HIS that exhibits this principle would be an implementation of a District Health Information System (DHIS) in SA that *“despite persistent problems with data quality, data flows and utilisation of data/information, has been a major achievement and largely a unifying force across the country (Hedberg, 2003).*

2.6.2 Sapping Systems

The converse of a vitalistic Information System would be a system that saps or drains an organisation of its essential lifeblood (resources) in the act of providing information or sustaining it. This would be an information system where the vendors or implementers derive greater benefit (financial or power) than the organisation or the patients.

An example of this would be the failed implementation of the MEDICOM solution in the Pretoria Academic Hospital that is hardly used (MEDICOM). Revenue for the implementers is generated from licence fees per bed, with the primary aim of financial gain. In an article, paradoxically titled "Tapping health from hospital" the company (MEDICOM) claims profitability from day one, with 70% of revenue derived from licence fees (Simhan, 2002). These fees are collected whether the software is used or not. The proclaimed benefits of the system have never been assessed.

It is possible that these principles cannot be observed directly, however, one should be able to identify these practices and principles in systems development, implementation and use.

2.6.3 Review of Literature on HIS implementation

In order to examine the impact that HIS has in South African health and healthcare, five case studies were selected for analysis from a survey of 23 articles published on HIS and eHealth implementations in sub-Saharan Africa (See *Table 16 Survey of HIS research in SA* for full details of the reviewed literature). The five case studies were selected from the 23 articles based on the comprehensiveness of information on the case (sufficient information to be analysed).

The review of the five case studies was performed and published in Uys (2007). To see a summary of the reviewed cases, please refer to Appendix C: Detailed Case Study Review. This section of the Literature Survey will examine the factors in HIS implementation that may or may not serve the broader social health needs as extracted from these case studies. Those that do are labelled vitalistic, and those that don't are termed sapping.

2.6.3.1 Reviewed Case Studies

The case studies analysed were the implementation of a Patient Admission System (MEDICOM, 2005); A Health Information System (HIS) in Kwazulu Natal by

Scott, Curtis & Twumasi (2002); A Community based HIS (Byrne, 2004); a District Health Information System (DHIS) (Braa and Hedberg, 2002), and a computerised patient record system (Rotich et al., 2003).

2.6.3.2 Framework for analysis

Assessing the impact of HIS in developed countries is not easy (Anderson and Aydin, 2005; Neville et al., 2003) although some subjective and objective metrics have been developed (Friedman and Wyatt, 2005). In a developing country such as South Africa, these metrics are even more difficult to apply due to systemic and social challenges with frequent failures of implementation.

The evidence of long-term positive impact or benefit of HIS in public health care in SA is minimal, with the majority of research identifying mainly challenges as evident in (*PPP in Healthcare: Inkosi Albert Luthuli Central Hospital - SA*, 2004; Booman et al., 2003; Braa and Hedberg, 2002; Brink, 1998; Bruce, 2002; Byrne, 2004; Delaney, 2004; Fernandes, 2004; Harris, 2004; Hedberg, 2003; Herbst et al., 1999; Khotu, 2001; Khumisi et al., 2002; Language, 2004; Littlejohns et al., 2003; Mathews, 2003; Mbananga and Sekokotla, 2002; MEDICOM, 2005; Rotich et al., 2003; Scott et al., 2002; Snyman and Snyman, 2003; Tanser et al., 2001; Wang et al., 2005; Williamson et al., 2001).

According to Hedberg (2003), most HIS implementations in SA have experienced organisational issues and challenges, cost-overruns, extended implementation times, collapses, under-utilisation, implementation failure, and significant problems.

Littlejohns et al. (2003) corroborate this by stating that the computer industry has benefited largely by portraying its products as essential for efficient and effective health care (without it necessarily being so).

Over the years, some research has been done to look at the impact of HIS. In 1978, (Stocking and Morrison) examined the impact of medical imaging on the Patient (Diagnosis, Management, Outcome), the health system (shape, staff, decision makers), and Industry. This framework is, however, of limited use for IS as it does not address the social, technical, and informational aspects of the implementation.

2.6.3.3 Review Process

For the purposes of this research the impact of the five eHealth systems were evaluated according to the two paradigm extremes of *'hard' rational design* and *'soft' political actuality* as outlined in Heeks (2002:107).

The impact of these case studies is evident to any astute reader. The characteristics however are open to interpretation and the author therefore acknowledges his involvement in the assessment of these items based on his own value judgements and interpretation. What was examined was how these factors affected the organisation, and whether they supported the system, or detracted from it.

The hypothesis is that if the impact of the system implementation was sapping or vitalistic, then the practices, and approaches used may be a contributing factor. The exception would be where there are some vitalistic aspects in the sapping systems and vice versa. These will however be indicated.

The analyses of the case studies were performed by scanning the case studies for focus areas and practices that matched the dimensions of information technology processes, objectives and values, people, structures, resources from Heeks (2002) and others.

Key aspects of these focus areas/practices were then extracted and grouped according to the objectives and values, approach/processes, issues/challenges/enablers/success factors, impact, beneficiaries, recommendations for research, and the author's interpretation of the case study. In a second iteration, these factors were extracted according to the Heeks dimensions, and subsequently tabulated.

For those not familiar with the case studies and the process of analysis, it may appear as if the factors seem to emerge out of the blue. This process is however based on the author's experience of Information Systems implementation in the Public Sector in South Africa, and can be seen as an *empirical* exercise for those with the appropriate experience. In the liberal sense it may be seen as an *intuitive* process.

2.6.3.4 Framework For Vitalistic HIS

Following is the framework that was derived based on the Heeks paradigms. The vitalistic aspects (enabling positive impacts) from the preceding HIS case studies are contrasted with the sapping (disabling, negative impacts) characteristics.

Impact	Sapping	Vitalistic
<i>Information</i>	Sickness & Disease (Epidemiology) unused information, restricted access, confirming and reinforcing power structures	Health needs, used at source, free access, challenging power structures.
<i>Technology</i>	Centralised, specialised technologies. Focus on technology.	Distributed, PC-based technologies or no technologies (paper/communication based). Technology as an enabler.
<i>Objectives and Values</i>	Efficiency, effectiveness, strategic alignment, and profitability. Aim of financial gain of vendor and or sponsor. Selling software and services. Evaluation of software. Reduced costs. Values efficient use of resources and making money.	Providing an enabling context for health and wellbeing. Identifying information needs and supporting management teams. Values care for patients, sensitivity to cultures, improving work environment.

Table 1 IT and Values

The first three dimensions evaluate the focus on information, technology, and the objectives and values of the implementation.

Impact	Sapping	Vitalistic
<i>Processes</i>		
Focus	Focus on organisational efficiency and effectiveness.	Focus on understanding the context and collecting and using information to improve health.
Participation	Limited stakeholder/organisational/end-user participation.	Significant collaboration and participation with funders, clients, educational institutions, communities etc.
Involvement	Limited client, end-user and community involvement.	Mentoring and coaching, workshops, interviews, group discussions, meetings with communities, end/information users, funders, researchers etc.
Design	Focus on technical capability and functionality of product, automating manual information	Understanding of context (powers, traditions and customs, socio-economic conditions).
Development	Standardised IS, proprietary software, focus on system capabilities, waterfall implementation, limited user involvement, protracted change processes, infrequent updates.	Flexible IS, open software, active prototyping & user involvement, informal change process, rapid changes to software to cater for environment.

Table 2 Processes

The fourth dimension was processes, which looked at the Focus, Participation, Involvement, Design and Development approach of the differing implementations.

Impact	Sapping	Vitalistic
<i>Staffing and Skills</i>	Limited transfer of skills, frequent use of external resources, maintaining of duplicate systems, increased workload, forced changes in roles and responsibilities.	Upskilling of staff, greater involvement and increased responsibilities, increase in personal time, decrease in administrative communication overhead, No/limited burden on workload.
<i>Management Systems and Structures</i>	Entrenchment of existing structures, engages with political power base, used as a tool of power and control. Creates a disabling environment.	Changing of structures, engaging at operational level, decentralised change in decision making and budgeting, increased flexibility and devolved control, empowering management, health workers and communities. Creates an enabling environment.
<i>Resources (time & money)</i>	Large-scale projects involving a number of people, little value derived from expenditure, long-term implementation with no/limited results. Drain on resources (time and money). Funding continues despite failures or no visible successes.	Small-scale implementations, Small teams of experts, value derived from small investments, often run on shoestring budgets, frequent milestones with visible results. Positive results ensure flow of funding.
<i>Society</i>	Minimal impact on society, primarily benefiting implementers or political agendas.	Facilitates interaction with society, Positive impact on health and service delivery, Identifies interventions proactively health

Table 3 Skills, Management and Resources

The final four dimensions evaluate the staffing and skills, resources, and the impact on society.

2.6.4 Key Findings

From this analysis, one can derive the following. The negative factors correlate with the rational design and the positive factors with the political actuality of Heeks. Technology or financial objectives and values in HIS implementation often achieved just that at the cost of the recipient or organisation. The major contributor to positive impact appears to be centred on the objectives and values of the implementers, regardless of the paradigm used in appropriation. Objectives of improving communication, empowering people and improving health, and values of caring, sensitivity to cultures and improving environments had a positive impact on society regardless of the technologies or development approach.

When examining the case studies for the impact on society, two trends were clearly evident. The studies in which the focus was technology achieved exactly that, improved technology. In the studies where the focus was on enabling the organisation or improving society, the impact was more positive both on the organisation and society.

From this analysis, it appears as if Information Systems that are funded or implemented by or for * _____ will most likely focus on, and serve the needs of * _____³. Unfortunately few IS are implemented or funded by the Patients.

2.6.5 Social Aspect of HIS Implementation

One approach to improving a system is by focusing on solutions that exist, highlighting why they work, and nurturing their development (Cooperrider et al., 2001). This perspective focuses on the political actuality, and not the rational cause-effect-solution approach.

In Information Systems it seems important that a broader focus on the overall health of the Information Systems (including the humanistic social, political and financial aspects) is required by IS and health practitioners. This should be inclusive of all the stakeholders in the IS chain (owners, educators, users, developers, and social, organisational and individual beneficiaries).

In order, therefore, to ensure/improve the possibility of implementing healthy information systems, awareness may need to be built on what factors/approaches contribute to a positive impact.

2.7 Literature Survey Summary

The following section provides a brief summary of the preceding literature survey.

2.7.1 Context

Citizens in South Africa are denied the right to equitable health services, due to a predominant focus by the Public Health System on administration resulting in poor health services, while simultaneously challenged by the triple burden of disease⁴. Health information systems are introduced into this environment as a solution to efficiency and effectiveness (Littlejohns et al., 2003). Again, a large

³ * Could be vendors/administrators/doctors/nurses/patients

⁴ Tuberculosis, Malaria and HIV/Aids

portion of funding for HIS is spent on improving the administrative processes, with minimal investment being made in improving the health of the recipients or the organisation (Hedberg, 2003).

2.7.2 Understanding Health and Wellbeing

What is referred to as health is often meant disease (or the absence thereof). Wellness more appropriately describes the state of being balanced in body, mind and spirit. Psycho-Neuro-Immunology (PNI) focuses on this relationship to promote wellness (Orr and Patient, 2004). From a Quantum mechanic perspective, the body/mind can be seen as a field of pure consciousness/information (Chopra, 2002). Based on these alternative perspectives, it is of interest what the role of the health care system should be.

2.7.3 Understanding Health Care

The "Health System" comprises the entire system of health care delivery including internal and external agents, as well as health and non-health related functions. Health care focuses on the actual delivery of health services (disease care or health enhancing) provided by the system (Van Rensburg et al., 1992). In this system, practitioners are trained in specialised medical areas, but tend to be overwhelmed by non-medical activities such as Finance, Administration etc. (Smith, 2001c). Patients only become part of the system when they are ill, and their role in their healing is often ignored (Steiner, 1974). To change this approach, will require patients to take responsibility for their own health and wellbeing (Orr and Patient, 2004:66). This would demand a change in approach from the institution to one of Prevention/Promotion/Wellness/Healing/Information/ Knowledge (*Professional Practice Model*, 2003).

2.7.4 The Public Health System in SA

The Public Health System comprises all aspects of health service delivery including those related to health care (i.e. administrative etc.). The public health care system is by default responsible for providing services to people that cannot afford private healthcare, as well as management of epidemics and societal health.

The SA Health System is mandated by the (National Health Act, Act 61 of 2003), which describes the different levels of the system that should be implemented, as well as the differing services. These services are to be delivered

according to a District Health System geographically dispersed across one hundred and twenty districts.

The system is under-resourced to deliver these services on a national scale, and has implemented a number of strategies in improving the services. These strategies (as outlined in section 2.4.3) have, however, had the opposite effect, and have resulted in a further degradation of health services, with an increased financial burden on the citizens. A number of alternative strategies have been proposed by industry specialists (in section 2.4.6), but it does not appear as if these have been considered.

2.7.5 The Public Health Information System in SA

The Public Health Information System cannot be examined in isolation from the health system, as it comprises the people of the system interacting with producing, storing, and retrieving information, whether electronically or not. As such, an important aim of HIS should be to enhance health care (through the use of ICT). Vendors claim that their software will assist in efficiency and effectiveness of Health service delivery. In reality the large sums of money spent on software have had a minimal impact on society. Health information is essential both in understanding and managing the health care system, as well as in improving the health and wellbeing of its citizens. An emerging concept of eHealth may offer the government an opportunity of improving the impact of health care through ICT, however, minimal the positive impact that was seen from existing studies.

2.7.6 Vitalistic Information Systems

Five case studies (from an initial review of twenty three) were examined for the processes and practices that contributed to the impact of the Public Health Systems. These were categorised according to the dimensions as outlined by Heeks (2002).

It was found that these systems can be categorized in a continuum between **sapping** and **vitalising** the organisation, the information chain, people and society. A *sapping* Information System (IS) is input-driven with a focus on technology to improve efficiency and effectiveness. A key principle for a *vitalistic* IS, is an outcome-driven focus on providing an enabling context for public health service delivery.

It appears as if the initial objectives and values of the implementers have a direct bearing on the impact the system has on society. In order to improve existing and future systems, one can focus on solutions that have a positive impact, as opposed to merely examining processes or rational cause and effect analysis.

2.7.7 Conclusion

Based on the review performed in Chapter 2, it is clear that the PHS is struggling to deliver health services, and that HIS are not impacting positively on the health of the individual or organisation. Chapter 3 will set out a methodology for analysis of the PHS to examine why this is the case, and Chapter 4 and 5 will examine what can be done, based on the analysis, to improve the impact.

“There is, first, the belief in insight as against discursive analytic knowledge:
the belief in a way of wisdom, sudden, penetrating, coercive,
which is contrasted with the slow and fallible study of outward appearance
by a science relying wholly upon the senses”
(Russell, 2007:8).

“In truth the state of health of the human body varies from instant to instant”
(‘Mens Sana In Corpore Sano’ - The Buddha Way - Sound Mind, Sound Body, 2000)

University of Cape Town

Chapter 3. Methodology

The research methodology sets out to expand on the research context, design and method, data collection, and analysis. It aims to establish a basis for identifying why the challenges found in the literature survey are experienced, as well as looking at ways of improving the outcomes of IS interventions.

3.1 Research Context

It is evident from the literature survey that the South African Government is struggling with challenges in delivering health service and enhancing the health and wellbeing of the citizen. It is also known that information systems can aid any organisation in the management and execution of this function. The SA Health system is likewise struggling to benefit from its information systems which often results in achieving little more than financial gain for vendors and suppliers (Littlejohns et al., 2003). Furthermore, there is minimal benefit to be seen in the health and wellbeing of the citizens through the application of IS. Lastly, it is clear that a rational approach to understanding the PHS will not provide further insight or relief, but that an approach based on understanding the social context may do so.

3.1.1 Research Alignment

A number of research groups are currently active in the area of HIS research in South Africa. The key groups identified are INDEHELA, CITANDA, MRC, and HISP; and their current roles, and intended interaction are detailed below.

Informatics Development for Health in Africa (INDEHELA) is a research project funded by the Academy of Finland, with objectives as outlined in Paragraph 1.2. The researchers in INDEHELA form a free association, and have regular meetings and seminars in order to inform other researchers in the group. This research was conducted in the auspices of this research group, and two INDEHELA researchers from Finland were part of the initial interviews.

The Centre for Information Technology and National Development in Africa (CITANDA, 2005) is a development and research centre that has been established at the University of Cape Town; to assist in the understanding of the leveraging of IT/IS to achieve national social, economic, political, cultural and human resource development goals.

The Medical Research Council of SA (MRC) is a statutory governed body established in SA, with various functions aimed primarily at improving the health of the population by scientific research in the Health Sector. The MRC will be a key ally in the conducting of this research in South Africa.

The health information systems program (HISP) at the University of the Western Cape (UWC), is a research and development program that has been commissioned to roll-out the district health and information systems (DHIS) in South Africa. HISP have developed a number of strategies for vitalistic HIS in SA (Williamson et al., 2001) in their rollout of DHIS in SA and will be an extremely valuable source of information for this research.

3.1.2 Research Questions

This research set out to understand the impact of HIS on Individuals, Organisations and Society. In Chapter 2, a distinction was made between sapping and vitalistic systems. It was also shown that some information systems in public health *do* have a positive impact on the organisation and the citizens (and others have a negative or sapping impact).

The Literature Survey also identified the characteristics of such vitalising and sapping systems. What was further found was that *the intentions of the participants/creators of the systems determine the outcomes.*

In order to explore the INDEHELA question of how HIS can have a positive long-term impact on healthcare services and health, it becomes important to understand why these systems are sapping or vitalising the PHS.

What was not clear from the Literature Survey was *how one could understand the intentions and desires of the participants and thereby predict whether a system will be sapping or vitalising.* Neither did it show why or how the state of IS and the associated impact thereof should reflect the state of the organisation. It also did not indicate how one can use the vitalising factors to increase the possibility of IS enhancing the organisation, and individuals' health and wellbeing.

The primary research question will therefore be answering: *How to achieve vitalistic HIS in SA Public Health System.* This addresses question 4 of the INDEHELA-Context research of *"How to ensure that computer-based information systems (that are implemented in public healthcare in South Africa) are sustainable, scalable and affordable, and have a positive long-term impact on healthcare services*

(and health)?” (Korpela et al., 2004:2). For Health Information Systems, this refers to how IS has a positive impact on the organisation and the health of society.

A process-based approach (Roode, 1993) was used to formulate specific research questions that have not been answered by the literature survey, and that will be used to guide the research.

1. Why IS interventions in the PHS predominantly failed to benefit the organisation and its clients?
 - a. What is the PHS busy with that causes these interventions to fail?
 - b. Are these challenges/failures part of a grand plan or scheme, or is it a confluence of circumstances leading to a specific outcome?
 - c. Is it driven by what people want to do, or what they ought to do?
 - d. Why if there are clearly defined strategies and plans in the system, does not appear as if they are followed.
2. What in the PHS cause these interventions to fail?
 - a. What are the wants, desires and intentions of the role-players in the system?
 - b. How can one examine the dynamic social nature of such a system?
 - c. What motivates the Public Health System in the implementation of IS?
 - d. Why the PHS behaves, acts or reacts as it does?
3. How can a better understanding of the PHS aid in ensuring a positive outcome of interventions.
 - a. in understanding why it acts in certain ways, to possibly present ways of improving or benefiting from such actions
 - b. Who is responsible for making these changes?
 - c. Who should ensure that the system is healthy?
4. How can future HIS be more vitalistic?
 - a. How is vitalistic HIS recognised, acquired, developed and implemented?
 - b. Who should be involved?
 - c. What types of IS solutions or changes should be introduced in the PHS.
 - d. How should it be designed?
 - e. What should the focus/objectives be?

- f. How can Public Health Sector achieve vitalistic HIS?
- g. Who should be funding/developing/implementing vitalistic HIS?
- h. How can this be made a part of the PHS.

By exploring these research questions and related concepts, it is hoped to clarify the concept of Vitalistic HIS in the SA PHS.

3.1.3 Philosophical Perspective

When examining a complex social system such as the Public Health System in South Africa, one can look at the system as a living system that is networked, dynamic, opaque, and behaves unpredictably (Kreyenberg, 2005). This is primarily because it is a system comprised of living humans that acts unpredictably to events. This perspective is corroborated in (Avgerou et al., 2004) where understanding the social contexts that justify attitudes and behaviours are as important, if not more, than the technical realities. Berg (2003) expands on this perspective in the way that a person reacts to a disease and to its treatment.

“Although there are definite routines and rules that bring structure, none of these are in principle exempt from reinterpretation in the light of unforeseen or unfamiliar circumstances” (Berg and Toussaint, 2003:228).

Actions or reactions of a social system are not linear, and it (they) may behave in a non-deterministic or stochastic way, where only the emergent properties are observable. This perspective departs from the Newtonian or anthropic mechanism where a rigid set of scientific or mathematic principles can be applied in order to determine actions in space and time (Kreyenberg, 2005).

Dennett (1978) identifies three levels of abstraction when predicting the behaviour of complex dynamic systems, namely, the physical, design, and intentional stance. The physical stance is at the level of physics and chemistry such as mass, velocity, etc. The design level is concerned with things such as purpose, function and design. The intentional level operates at the level of software and minds, and is concerned with beliefs, desires, thought, and intent (Wikipedia, 2007:Intentional_Stance).

This elevates analyses of a system such as the Public Health System from mere cause-effect analysis, through looking at design and structure, and ultimately at the desires and intentions of the role-players in the system. Dennett (1978) does not propose a mechanism for understanding such intent, but does link the intentional

stance to evolutionary theory (natural selection) by stating that it is an adaptive advantage to have “the ability to make quick *predictions of a system’s behaviour based on what we think it might be thinking*” (Wikipedia, 2007:Intentional_Stance). It is therefore based more on a phenomenological perspective than on scientific method.

3.1.4 Researching the Public Health System

Prior research of the health system focused mainly on the physical and design level. Van Rensburg et al. (1992), for example, focused on a number of internal, external, and target determinants of healthcare. Internal determinants focused on are personnel, culture, policy, funding, and service delivery. External determinants such as historical contexts, economic, political, institutional and cultural determinants, and geographic and demographics were examined. The target population (demand and consumption) was viewed in terms of their demographics, health status, health culture, and health consumption behaviour.

These aspects examine a static organisation or state, and do not necessarily address the dynamic social nature of such a system. Nor does it address the reasons why an organisation such as the health system behaves, acts or reacts as it does.

The Public Health System in South Africa is highly regulated (National Health Act, Act 61 of 2003) with numerous acts and policies governing what should be done. Despite these regulations, policies and guidelines, the system largely fails to deliver on its mandate (Allan et al., 2004). It appears as if there is a gap between what “ought to be done” as opposed to “what is done”.

King (2003) theorises that what ‘ought to be done’ is determined by the collective. ‘What is done’ or ‘what I want to do’ is determined by the individual.

The philosophical perspective of classicism explains an environment where an organisation ‘should do’. Post-modernism defines an environment where standards and plans are shunned in favour of individual or even collective wants and needs. Modernism explains an environment where rational thought processes are followed in order to determine ‘what to do’ or ‘what makes logical sense to do’ (Hassall, 1998).

For Health Information Systems to make a positive difference the PHS and in the lives of the citizens, it is important to align with ‘what I want to do’ as determined

by the individual. This is often referred to in IS terminology as business/IT alignment, buy-in, change management. In this case it is taking a post-modern perspective concentrating on understanding the desires, wants, and intentions of the actors or agents in the social system.

Berne (1963) believes that the main need of a group is for its survival. This includes aspects such as rituals, cultures, admission/non-admission, ideological/physical/effective survival, etc. This may be one aspect of a group's purpose, but does not necessarily explain the behaviours of individuals, or the resultant actions of the group.

3.2 Research Design

The risk with introducing an HIS into an already unstable organisation, is that the HIS may sap the organisation of its capabilities. It therefore becomes important to examine the system and the organisation in a holistic manner in order to see the effect the system has on the organisation, and the effect the organisation has on the system.

The approach adopted for this research uses an integrative approach at a societal, organisational, group and individual level. The philosophical perspective is interpretive, and based on a systemic constructivist approach. The method of analysis is based on Transactional Analysis.

3.2.1 Integrative Levels of Analysis

In order to examine vitalistic HIS in the public sector in SA, an integrated method will be adopted. This means that not only will the whole system be the subject of this research, but the different levels will be analysed based on the methodologies/theories as indicated in Figure 3.


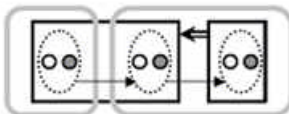

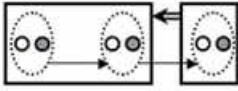




Level of Analysis	Intra-viewpoint: The unit of analysis as such	Inter-viewpoint: Relations or comparison between units of analysis	Theories, frameworks, names
Societal	Country/Culture 	Trans-national service chain 	Systemic Thinking, Health System as a living organism
Organisational	Organisation/Systems 	Business between organizations 	Transactional Analysis in Organisations (TAO)
Group/Activity	Activity/Transaction 	Service chain between activities 	Drama Triangles, Game Theory, Pastimes
Individual	Person/Ego State 	Administrators, doctors, nurses, patients, IS practitioners 	Life Positions, Ego States, Transactions, Scripts

Figure 3 2x4 Integrative Levels of Analysis expanded from Korpela et. al. (2002)

3.3 The Public Health System as a Living System

Using a Transactional Analysis perspective, the Public Health System (or any organisation for that matter) is a living system (Kreyenberg, 2005). The characteristics of such a living system, is being unpredictable, networked, dynamic, opaque, and indeterminable. This is primarily because it is a system comprised of humans that react unpredictably to events.

The difference between the Public Health System and a person, however, is that it is not conscious, has no dignity, and does not perceive aspects of time and space. Neither can we interact with such a system directly, however, its “culture will be visible through the behaviours of its members” (Balling, 2005).

As Thayer (1993) elaborates, information cannot be objectified, and that information only becomes ‘information’ when some meaning is ascribed to it by the recipient. Furthermore, this information develops based on his/her understanding or perspective.

“Each receives according to his (or her) capacity” Aquinas in Thayer (Thayer, 1993:112).

Likewise, the system is based on meaning and understanding.

“So the system of which “it” (information) is a property is a cognitive system undergoing change” (Thayer, 1993:113). In order therefore to understand the “information system” in the Public Health System, it is important to understand the cognitive aspects that give the information its meaning.

3.3.1 Physis of an Organisation

An apt term for describing the nature of such a system would be Physis or the “intrinsic way or growth of an organism” (Wikipedia:Physis), the energy or life-force of an organisation (Mountain and Davidson, 2005), or an inherent transformative force (Kreyenberg, 2005).

Moreau (2005) provides a model for the Physis. The analogy is to liken the health system to a human system. These concepts are not new, and have been used before in terms such as “The Brain of the Firm”, or “The Heart of the Enterprise” (Beer, 1979; Beer, 1981), “The Soul of an Organisation” (Simpson, 1998), and referred to in concepts such as “Organisational Learning”, “Growth of an Organisation”, etc. The system can be separated for the sake of analysis into the organisation’s physics (body) and psychology (mind), both terms of which have their roots in the word Physis. The body can be described as the conscious part (structures, objectives and rules) and the mind as the unconscious part (information processing, ideology, culture or personality).

3.3.2 The Body of an Organisation

The organisational body is described by Fox (1975) as having a bone structure, vital organs and a skin:

- *Bone Structure: comprised of structure, people, relationships, and objectives (Moreau, 2005).*
- *Vital Organs: General Management (Authority, Reference Authority, and Institutional Power), Legitimacy (Rules, Regulations, Constitution), Core Service (Transformation of production), Organisational Support (Production support, adaptation to environment, general maintenance) (Fox, 1975).*
- *Skin or boundaries of an organisation, namely (Berne, 1964)*
 - *External boundary: differentiates inside from the outside*
 - *Major internal boundary: differentiates leadership from membership*
 - *Minor internal boundaries: differentiates categories of members*

For the sake of completeness, this author has added a fourth aspect namely appearance:

- *External appearance such as makeup (dressing), clothes, jewellery, etc. In the case of the Public Health System, this is how the buildings are built, where they are located, what they look like inside and out, etc.*

The body makes up the visible or tangible aspect of the organisation with which we interact.

3.3.3 The Mind of an Organisation

The mind or personality of an organisation is described by Balling (2005:313) as “A set of habits and behaviours that are typically exhibited by its members. These are accompanied by typical values, feelings, and beliefs”. Berne (1964) analyses this organisational mind into three aspects, namely, Technical culture, Group etiquette and Group character.

Ego State	Cultural Aspect	Dimension	Description
Parent	Etiquette	Meaning	What one is supposed to do
(P)		Definition	Protocols or rules based on social etiquette that group members must respect in order to belong or be accepted
		Examples	Timeliness, working hours, org structures, etc.
		Actualisation	Can be contained in writing such as a company policy or building architecture.
		Expression	Defines the verbal patterns of any transaction, enforces the social contract, and provides form to the group process.
Adult	Technique	Meaning	What one has to do
(A)		Definition	The rational aspect of the organisation
		Examples	Techniques for changing the environment (construction, manufacturing of medicine, prostheses) to intellectual technique (counting stock to diagnosing illness).
		Actualisation	Can be documented as work procedures or job descriptions.
		Expression	Defines what technical knowledge or skill is required, how work is performed, what is done, how decisions are made, and rewards organised
Child	Character	Meaning	What one might like to do
(C)		Definition	The emotional acceptable individual behaviour while not following etiquette
		Examples	Laughter, anger, singing, etc.
		Actualisation	More primitive or instinctual than etiquette.
		Expression	Difficult to quantify or formulate in words. Can be seen in clothes, Décor, Attitudes and Behaviours.

Table 4 Mind of an Organisation based on TA (Berne, 1964)

“The mind does not deal in ‘information’ ...it deals only in meanings” (Thayer, 1993:112).

The framework provided by Berne (1964) maps these organisational personality aspects to the three personality ego states (in brackets) namely etiquette (parental aspects), technique (adult aspects), and character (child aspects). Following is a tabular representation of these three organisational cultural aspects as seen by Berne (1963); Moreau (2005), Drego (1996) and others⁵. The mind makes up the intangible or unexpressed parts of the social organisation, and is only evident through actions and outcomes of participants in the system.

3.3.4 Organisational Culture

Even though the mind of the organisation comprises an aspect of organisational/corporate culture, the concept is worth mentioning here, as a significant amount of research has been done in the assessment and diagnosis of culture (Balling, 2005; Deal and Kennedy, 2000; Handy, 1985; Hofstede, 2001; Schein, 1992). Organisational culture is seen as “*comprising the attitudes, experiences, beliefs and values of an organisation*” (Wikipedia:Organizational_culture). It is a broad term that provides a perspective of how an organisation “behaves” internally and externally.

3.4 Research Method

Based on the above discussion, it is evident that one cannot measure/assess the Physis (bone structure, vital organs, skin, or mind) of an organisation in a rational, mechanistic manner. Even if one were able to do this, it will be different when such measurement is done again, because the system is a dynamic living system. Even the rational aspects (structures, acts, policies, procedures, etc.) of a system as large as the public health system in SA, are in continuous flux, and are interpreted by its human agents in differing and often contradictory ways.

Balling (2005) states that one can only observe the behaviour of the members of the organisation and the various ways that the organisation has of promoting its public image (or imago). To do this requires a means of developing a conceptual framework of the system that acknowledges the dynamic aspect of such a living system.

⁵ In order to maintain consistency with other authors such as Sommerton SOMMERTON, O. (1979) *Transactional Analysis-An introduction to basic concepts*, New Delhi., Manohar., the ellipse is used to illustrate the structure of a group as opposed to the circle of an individual. Input for this table was taken from Berne (1963:110); Moreau (2005:358), Drego (1996:196) and others.

3.4.1 Method Justification

The intention of the methodology is to try to understand the psychology, unconscious mind, character or DNA⁶ of the Public Health System by using a TA perspective.

It is evident from the Literature Survey that rational, mechanistic approaches to HIS will only sap the health system more, and that a process based interpretive approach would be more suited to vitalise the system. Avgerou, Ciborra & Land (2004) provide substantial support for using a social approach to study ICT in organisations; and that it is essential to understand the reasons behind actors attitudes and behaviours.

By applying TA, it is hoped that a greater understanding of the thought processes in the organisation and the individual will become apparent.

“(by) analysing all these factors through a creative and empathetic process, and linking them to beliefs and values that are found on a deeper level” (Balling, 2005:313).

These beliefs and values will be manifested in the mind of the organisation as scripts, games and pastimes or, as Berne (1961) defines it, as its etiquette, technique, and character.

3.4.2 Application of TAO

According to Kreyenberg (2005) Transactional Analysis in Organisations (TAO)⁷ can be used to determine a conceptual framework, map, or DNA of the system. This DNA forms the foundation for all future growth/creations in the system. Having such a blueprint will ultimately aid in understanding/predicting/changing the future behaviour of the system.

If the organisational culture is weak, individual patterns of behaviour determine the underlying Transactions. In a strong Parental culture, the organisation pathology will be dominant (Berne, 1963). This means that the Etiquette, i.e., organisation procedures and rules, define the behaviour and transaction patterns.

⁶ In a living organism the DNA is a “nucleic acid that contains the genetic instructions for the development and function of the organism.” <http://en.wikipedia.org/wiki/DNA>. In this context it is the unwritten information and rules that influences the behaviour, development and function of the public health system.

⁷ Sometimes referred to as Organisational Transactional Analysis

These transaction patterns can be analysed by examining the pastimes, rituals, scripts and games, and determining the predominant ego state (Parent, Adult, and Child) in the organisation.

Balling (2005) describes this from a TAO perspective as:

1. How does rule-oriented (order) thinking/feeling/behaviour manifest itself (Parent ego state)
2. How does nurturing (cohesion) thinking/feeling/behaviour manifest itself (Adult/Nurturing parent ego state)
3. How does child (challenge) thinking/feeling/behaviour manifest itself (Child ego state)

It may be possible to analyse and predict how the system will react to any specific event, once these pastimes/rituals/games are understood. The types of events could be the introduction of an information system, or the changing of strategy, or of trying to understand the reasoning and motivation of the human actors involved in the selection, implementation, use, support and benefits of HIS.

The application of TAO is as varied as the applicants (Balling, 2005; Chevalier, 2005; Jongeward, 1973; Kreyenberg, 2005; Mohr, 2006; Moreau, 2005; Mountain and Davidson, 2005; Neath, 1995; Schmid and Messmer, 2005). Mechanisms for the application of TAO are the TA mechanisms that will be explored in Paragraph 3.4.4 i.e., Bone Structure, Body, Mind, Scripts, Sweatshirts, Game analysis, Drama Triangles, OK Corall, Ego States etc..

Organisational Culture can be diagnosed according to the three ego states as outlined by Balling (2005). An Orienting Parent state is equated to a mechanistic culture, a Nurturing Parent to a Family culture, and Child state to a Playground (fun at work) culture.

As TAO is a method to assist an organisation in healing itself, other methods of intervention have been developed that describe the entire process. Examples of these are the assessment-analysis-action (3A) model (Mountain and Davidson, 2005), and TA applied in organisations (Jongeward, 1973).

This research will adopt a combination of these various mechanisms and methods, although it should be noted that no specific intervention is intended as part of this research. The research remains a basic assessment, analysis and diagnosis and does not aim to introduce any interventions as part of the research.

3.4.3 Motivation for using TA

The author's interest in using TA for this research started when a dis-connect was identified in what the people that were part of the system said they did, and what was actually done. It was also evident that power and control (as well as submission to control) was a strong motivating attractor for people in the Public Health System. Both these anomalies are well explained by TA.

An added benefit of TA is that it provides a vast body of knowledge on how to successfully engage with, intervene or change the pathology in such an organisation and what the impact of such interventions will be (either complementary or crossed transactions).

3.4.4 Thesis

From the literature survey, it is evident that the challenges that are experienced by the Health System to deliver services; and its ability to utilise information systems to improve the health and wellbeing of citizens; are not due to the physical aspects or rational design of the organisation (or systems). It is, however, likely that it is introduced through the intentional stance of such a system as a result of participants' psychological wants, beliefs and desires.

In order to ensure/improve the possibility of implementing vitalistic HIS, it is essential to understand these psychological wants, beliefs and desires that form the basis for the bureaucratic incompetence, power games that have been referred to by Braa (2002), Hedberg (2003), Allan et. al. (2004) and others.

The thesis of this research is that although HIS implementation's rational purpose may have been to improve health and aid in administration and plan interventions; the outcome or result may be entirely different as a result of the intention of the participants. This can be likened to a psychological transaction (Berne, 1964) where on a social level the interaction is Adult-Adult, but on a psychological level, it may be Parent-Child.

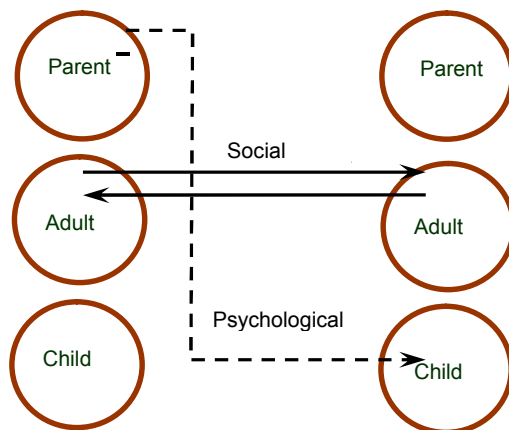


Figure 4 HIS Implementation Transaction Model

Social: Improving Health and Health care management

Psychological: Power, control, empire building

The outcome or result of such an interaction is almost always at the Psychological level, and not the Social level (Berne, 1963).

For this research it is postulated that the primary ego state of public sector health in SA is that of the Parent state. This is evident in the hierarchical, bureaucratic, paternalistic structures found in public health (Hedberg, 2003). It is also evident in the political power games (Braa, 2002:5; Berne, 2004), withholding of information, sabotaging of information channels, and lack of IS as seen in Allan et al. (2004).

It is also posited that environments operating on the Adult ego state have a greater chance of exhibiting vitalistic traits.

Transactional Analysis (from which the above model is derived) will be used to explain and analyse these internal conflicts in the Public Health System. Transactional Analysis also provides a mechanism for intervention in individuals/organisations that can aid in improving the outcomes (of the interventions).

3.5 Transactional Analysis⁸

Transactional analysis (TA) is a social psychology theory developed by Eric Berne (Harris, 1995). The basis of TA is structural analysis, or the segregation of ego

⁸ This chapter provides an overview of TA. As its application is novel in the field of IS, it is provided for those readers not familiar with the theories and concepts. For the application of TA in this study, please refer to the last paragraph or two of each section. Also note that not all the TA concepts were used in the analysis of this dissertation.

states namely the Parent state (exteropsychic), Adult (neopsychic), and Child (archaeopsychic). These states can be loosely related to those of Freud i.e., the id (Wang et al., 2003), ego (Adult) and superego (Parent) (Berne, 1961); and from a philosophical perspective of Classicism (Parent), Modernism (Adult), and Post-Modernism (Child) and an existential perspective of Faith (Parent), Ethics (Adult), and Aesthetics (Child) as outlined by Hassall (1998).⁹

The Parent (P) ego is equated to an unquestioning belief in everything that we accept as true from authority figures. The Adult (A) ego is comprised of knowledge that we have learnt from our own experiences and rationality to be true. The Child (C) ego state is our emotions or feelings (love, anger, greed, empathy). This model can be referred to as the PAC model. The application of this model in IS practice can be seen in Hassall (Hassall):

“Once familiar with PAC it is possible to identify the contribution of particular ego states to an interaction in terms of the words and language adopted. It is possible for example to deduce the influence of the Parent ego state through observing the use of such terms as ‘ought to’ and ‘should’; the Child by contrast says ‘I want’ and ‘I feel like’... moreover during this process the calm and logical voice of the Adult ego state will also play an important role”. Hassall (1998:12).

Core to psychology is the issue of motivation (Branden in Harris, 1995:210). Of interest to this research is; what motivates the Public Health System in the implementation of IS. According to Harris (1995:238) an entire system’s actions may be explained, by understanding the reasoning/actions of individuals in that system.

“Proponents of TA suggest that, in making a decision these ‘voices’ will be present in our minds and influence how the decision process turns out” (Hassall,1998:12).

The goal of TA is autonomy and self determination of the individual or organisation (Berne, 1964).

“Change is achieved by means of new perspectives concerning the problem, modification of attitudes (development of personality) and by effective

⁹ The particular ego state of Transactional Analysis that focuses on the postmodern perspective is the Child ego state where choice depends on feelings and that which makes an individual “feel good”. The other ego states (Parent, and Adult) can be likened to Classicism and Modernism or what one ‘ought to do’, and ‘calm logical reasoning’ respectively (Hassall, 1998).

intervention in organisational processes (Organisational Development)” Sell in (Van Poelje and Steinert, 1996:7).

Transactional Analysis provides a model that may illuminate the duality found in the Public Health System. Using a Transactional Analysis perspective allows us an insight into the psyche of the organisation; its wants, need, desires, and intentions. It also allows us to have a deeper understanding of the social “mind” of the organisation, by understanding the ego state of individuals/the organisation. This will assist in understanding why it acts in certain ways, and possibly present ways of improving or benefiting from such actions (Berne, 1963).

3.5.1 TAO Philosophical Perspective

The research is developed and informed by the concepts and practices of transactional analysis (TA) and Transactional Analysis in Organisations (TAO).

TAO stems from the principles of Transactional Analysis (TA). TA differs from “traditional psychology” in that it is not based on “conversational” therapy or analysis, but rather on providing a framework for the “patient” to understand his/her own behaviour/scripts (Berne, 1961) thereby allowing him to modify his own responses.

Following is a recommended approach in the application of TAO research. It is based on seven key issues (principles) linked to the intervention as outlined by Kreyenberg (2005).

Issue	Intervention	TA Approach
1. Holistic Thinking	Ask questions about the whole mosaic, the context.	Intuitive approach Researcher is part of the process TA models consider the whole e.g., ego states, symbiosis
2. Self-similarity	Draw conclusions from the fractal of a first stimulus to develop an initial hypothesis about the problem and/or solution	Parallel process – Can extend one transaction to understand whole communication
3. Circularity	Think about circular mechanisms that either reinforce the problem patterns or stabilise solutions.	Identify self-reinforcing circular systems in TA e.g., frame of reference, racket systems, mini-scripts
4. Subjectivity	Aim to use all your capacities; be creative, be aware of your subjectivity, and take responsibility for your contribution to the problem and the solution.	Our perception determines our reality: frame of reference The goal is autonomy; to be free from distortions such as script beliefs, drivers, contaminations etc. To be in charge of own feelings, thoughts, behaviour, and decisions
5. From structure	Use TA concepts as a checklist	TA focus is on patterns that

Issue	Intervention	TA Approach
to process	to identify potential patterns.	describe processes e.g., games, scripts, etc.
6. Focus on Effects	Focus on healing forces and leverage effects	TA is a pragmatic and resource-oriented approach First heal and then theorise “Physis” as an inherent transformative force: Don’t stop the river, it flows by itself. Occam’s razor (law of succinctness) Often the solution is the problem: idea of drivers/script beliefs
7. Logical Level	Check on various levels, roles, and contracts.	TA considers different levels: person, interaction, development, groups; discounting matrix (area, modes, types) Differentiate between intervention levels and roles

Table 5 Seven TA Issues mapped to Systemic Constructivist Perspective (Kreyenberg, 2005:308).

The above table provides a broad outline of the practical implications of applying Transactional Analysis in Organisations.

TAO extends the ego states and other practices of TA such as scripts, games, etc., to apply to the organisation. On the same basis as TA, TAO can provide an organisation with an awareness/understanding of its scripts in a meaningful manner that can assist the system in changing its own behaviour. According to Kreyenberg (2005) TAO is based on a number of systemic constructivist assumptions, as it was originally conceived as a social approach. Persons that influenced Berne in the development of TA were Weiner (the founder of cybernetics), and Foerster (contributor to constructivism) (Kreyenberg, 2005:301). TAO is outlined by Mohr & Steinert (2006) as regarding the *“patterns of thinking, feeling and behaviour in organisations... and also the methods of diagnosis and interventions... on a personal and systemic level...all on the foundations of transactional analysis identity”*.

3.5.2 Theory of TA

Transactional analysis examines the interactions in the system/organisation on two levels, namely, the social and psychological level.

The social level comprises the “audible, visible, and obviously perceptible level of interactions between people” henceforth the body of the organisation. Berne refers to the social level of interactions as material programming.

The psychological level is concerned with the “hidden, covert, non-explicit communication that may accompany the social level of transactions” or the mind of the organisation. (Steiner, 1974).

The first section of this chapter will provide an overview of the theory of TA, and the following sections will examine in more detail the concepts of Material and Social Programming. Lastly, the theories of Drama Triangles will be reviewed.

3.5.2.1 Transactions

Berne (1961:87) identifies a transaction as “*The overt manifestations of social intercourse*”. He describes transactions as occurring in chains, i.e., “a Transaction Stimulus (TS) from X elicits a Transaction Response (TR) from Y; this becomes a TS for X, and X’s response (TR) in turn becomes a new TR for Y”.

Transactional Analysis (TA) is therefore the analysis of these stimuli and responses. It is also feasible using TA to determine the presenting ego states of the parties, as well as that of the responding invitations. TA also proposes mechanisms to counter these invites.

The way that this research was conducted (through interviews) does not lend itself to the type of analysis encountered during individual or group transactional analysis or psychotherapy. This does not mean that there are no transactions between the interviewer, and the interviewee. It is just not considered to be the core focus of this research.

3.5.2.2 Ego States

The basic tenet of TA is structural analysis and it is based on the observation of three distinct ego states namely Parent, Adult, and Child by Berne (1961). To indicate the ego states in the analysis, the following letters will be used, namely: (P)arent, (A)dult, (C)hild. To recap these ego states as outlined by Smith (2001a)

(P)arent ego state - Attitudes, behaviours, thoughts and feelings taken in from parents or parental figures.

(A)dult ego state - Behaviours, thoughts and feelings which are a direct response to the current reality.

(Child ego state - Behaviours, thoughts and feelings replayed from childhood and childhood decisions.

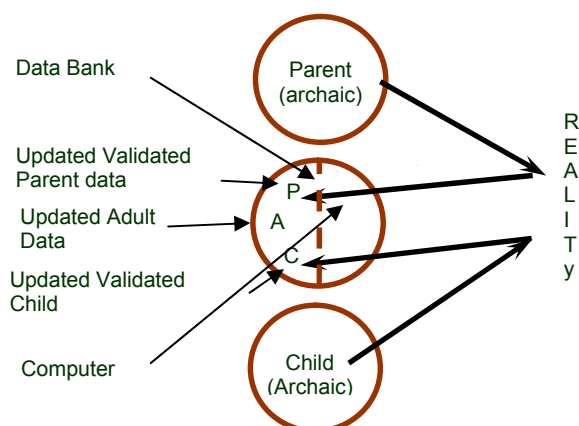


Figure 5 Updating of Adult function through reality testing (Harris, 1995)

Harris (Harris) describes the development of the Adult, as the processing of Parent and Child data established in earlier life positions, against reality. This data bank then forms a new source of validated data that does not require continuous testing or updating.

These ego states can be identified by “*observing the visible and audible characteristics of a person’s appearance or ego based on skeletal-muscular variables and by the content of verbal utterances (words and sounds)...certain gestures, postures, mannerisms, facial expressions, and intonations, as well as certain words*” (Steiner, 1974:27). The observer can also use his/her own emotional reactions and thoughts to assist in the identification.

“*The most complete diagnosis of an ego state includes three sources of information:*

- 1) *The behaviour of the person being observed;*
- 2) *The emotional reaction of the observer; and*
- 3) *the opinion of the person being observed “.* (Steiner, 1974:28).

The purpose of identifying the ego states is to aid in self understanding, to improve awareness and to aid improved social interaction, both for the observer and the observed. To indicate the key attributes of the functional ego states in more detail, the six identified ego states will be used (Woollams and Brown, 1978):

Critical Parent (CP): Moralistic, judgemental, authoritarian

Nurturing Parent (NP): Reassuring, caring, encouraging, supportive, understanding

Adult (A):	Non-judgemental, open-minded, interested, confident, reality-based.
Rebellious Child (RC):	Defiant, complaining.
Adapted Child (AC):	Compliant, passive
Free Child (FC):	Curious, energetic, fun-loving, spontaneous

3.5.2.3 Life Positions

Harris (1995) identifies four life positions from which a person can transact, based on his ego states. These are:

1. I'm not OK – You're OK
2. I'm not OK – You're not OK
3. I'm OK – You're not OK
4. I'm OK – You're OK

A brief description is taken from Harris (1995) for each of these ego states.

1. I'm not OK – You're OK

This life position originates in infancy, and is based on the child being at the mercy of others for feeding, nurturing etc, and reflects a sense of inferiority. People in this position live out reality either by withdrawing socially, or by placing a condition on being OK. They are willing, compliant, and eager to please, and seek strokes¹⁰ from Parent ego states. Whatever the Parent does is OK, because this is their life position. This is the most common life position and the way people deal with this position is by playing games (See Paragraph **Error! Reference source not found.**).

2. I'm not OK – You're not OK

This life position is established after infancy if all strokes are removed. In this position the Adult stops developing, and the person gives up hope for life, and merely exists. It is very difficult for this person to develop into a functioning Adult if such a life position is established early in life.

3. I'm OK – You're not OK

This position is established by the person who is brutalised by the parents, and is usually established in the 2nd-3rd year in life. Stroking for this person is

¹⁰ A "stroke" is a unit of recognition that "strokes" the ego state.

obtained by internal means that can be likened to the licking of wounds. The person develops a mental toughness in order to deal with the external world which by his/her life position can never be good enough or provide sufficient strokes.

4. I'm OK – You're OK

This life position is a conscious decision to accept oneself and others based on "*thought, faith and a wager of action*" (Harris, 1995).

This position is developed in later life when sufficient data is available to be able to evaluate and review one's earlier life decisions.

3.5.2.4 Stimulus, Recognition, and Structural Hunger

Berne (1964) realises that people need social interaction, recognition, and structure in order to be fulfilled. Following is a high level definition of these hungers by Berne (1961).

Stimulus Hunger: A need for physical, emotional, and intellectual contact with others.

Recognition Hunger: A need to have one's existence as an individual recognised.

Structure Hunger: A need to structure one's time to meet the need for strokes.

The theory of TA determines that individuals exhibit behaviour to satisfy these hungers, regardless of whether it attracts positive (vitalistic) or negative (sapping) outcomes (Berne, 1964). The quest to satisfy these hungers results in numerous rituals or activities specifically catering to peoples demands (Berne, 1961).

Structure hunger is as important as stimulus and recognition hunger; and the absence thereof can lead to boredom, and emotional starvation (Berne, 1964). People have a need to be "busy" through structured events or programs (Berne, 1963). Berne (1964) separates structural activities into work (material programming), and pastimes and/or games (social programming).

3.5.3 Material Programming

Material Programming or work is defined by Berne (1964) as a sequence of data processing, taking something from one state to another through a sequence of steps. Work offers a person opportunity for receiving and giving recognition, but also becomes a platform for social interaction.

"the most common, convenient, comfortable, and utilitarian method of structuring time is by a project designed to deal with the material of external reality: what is commonly known as work" (Berne, 1961:85).

In the Public Health System, work is the mechanism of service delivery such as the provisioning of hospitals, the admission of patients, the treatment of diseases, and the ensuring of good public health by provisioning of clean water, sanitary services, etc., or essentially, their reason for existence.

Much has been researched about the material aspects of Public Health Care, but this does not constitute the core of this research.

3.5.4 Social Programming

Social Programming comes about when a persons' basic need for stimulus or structure are not satisfied. It may involve scripts, sweatshirts, power plays, rituals, pastimes or games(Berne, 1964). The differences between these concepts from a TA perspective are:

1. Scripts: Unconscious structuring of an individual's life plan.
2. Injunctions: Injunctions are scripts established in early life.
3. Rackets and Stamps: Inauthentic feelings stored for later use.
4. Sweatshirts: Dual meaning of transactions, an invitation for a Game.
5. Power-Plays: Use of power to satisfy needs for recognition.
6. Rituals: Formal or informal events such as greetings, eating, marrying, and mourning.
7. Pastimes: Activities less formal than rituals.
8. Games: Ongoing series of interactions, leading to a specific outcome.
9. Drama Triangles: An elegant mechanism of capturing and presenting games.

The following paragraphs explore each of these concepts in more detail.

3.5.4.1 Scripts

What is of greater interest to this research is analysing the Public Health System in terms of the stories or scripts of the organisation, and identifying the ego states, ego positions, and games of the characters or parties concerned. This has more in common with the systemic analysis of Games in an organisation as proposed by Ramond (1996) than that of analysis of the individual.

This is done by linking together the transactions as a story or script. The analyses of these stories or scripts are then made using a technique called script analysis.

A script is likened by Berne (1961) to a theatrical script, which in turn can be defined as *“The written document containing the dialogue and action for a drama”* (Wikipedia:Script). From a TA perspective (Berne, 1961) scripts are “adaptations of infantile reactions and experiences” and are an attempt to repeat childhood dramas. As such, the analysis is more focused on behaviour and action. Scripts can either be seen as the entire life script (Life Script), made up of acts and games (Berne, 1964), or a number of smaller scripts making up a game (Game Scripts).

Scripts as in the theatre may lead to great happiness, or to tragedy. Tragic scripts leads to divorce, death, sickness etc (Berne, 1961). Steiner (1974) identify three basic script types. Examples of these scripts, their characteristics, injunctions and payoffs are listed in Table 6.

Script Type	Characteristic	Injunctions	Payoffs
Loveless	Lacks intimacy.	Don't be close, Don't be, Don't trust.	Depression Suicide
Mindless	Lacks Awareness	Don't Think Don't be You	Confusion Madness
Joyless	Lacks Spontaneity	Don't feel Don't Make	Boredom Addiction

Table 6 Script Types (Steiner, 1974)

Loveless script is a depression or no love scripts. Mindless is a madness or no mind script”. Joyless is a drug addiction or no joy script.

It should be noted that there is a fundamental difference between analysing individual or “life-scripts” as defined by TA practitioners, and organisational scripts. In individual script analysis “we use life-scripts to understand how people may unwittingly set up problems for themselves, and how they may set about solving those problems” (Stewart and Joines, 1987:5).

“Just as individuals have scripts, so do organisations” (Jongeward, 1973:7).

What Jongeward (1973) is saying, is that organisations have unwritten rules and ways of doing things that are not advocated or captured in policy or by other formal means. These scripts include unwritten rules about status, reward, lines of communication, roles (gender, age, and race), education, grooming, personal conduct etc., which give the organisation its identity, and ultimately determines its

operation and destiny. Applying TA in organisations can be likened to a second order analysis of the data based on a transactional analysis paradigm.

Script analyses in organisations involves assembling the story, or sequence of events, together with the transactional roles and invites. This is done in a format where the ego state (Parent, Adult, Child) and/or stance (Victim, Persecutor, Rescuer) is portrayed, and linking the transaction to an invitation (rescue, persecute, or victim).

The purpose, however, is the same as with life-scripts, in that it is intended to gain a greater understanding of how organisations unwittingly create their own problems, and how to solve those problems. The approach in this research is therefore to link the transactions together into a story that is repeated under different circumstances. When transactions become repetitive, and lead to a dramatic (drama) conclusion, then it can be qualified as a game.

3.5.4.2 Injunctions

Scripts are established early in life by injunctions stored in the child ego state. Goulding & Goulding (1979) identify some of these injunctions and their associated thoughts as:

- Don't Belong - "You're different"
- Don't be a child - "Kids are noisy"
- Don't exist - "I wish I never had you"
- Don't Succeed - "Who do you think you are"
- Don't do anything - "You might get hurt"

According to Steiner (1990:68) the effect of these injunctions becomes a basis for the kind of decisions that the person makes. From an organisational perspective, these injunctions are the unconscious program by which the organisation is living. These injunctions are expressed as unwritten rules, behaviour, stories that they tell themselves and others, and ways in which events are interpreted. These injunctions also become the basis for the kind of decisions and actions that the organisation makes.

3.5.4.3 Rackets and Stamps

Racket feelings are inauthentic feelings felt by people as a substitute for real feelings (English, 1971). These feelings were probably learned in childhood as an

“acceptable” alternative, are experienced in stressful situations, and do nothing towards solving the problem at hand. These feelings can be collected over time as “Stamps” and cashed in later for a negative payoff.

Rackets are directly related to scripts (Stewart and Joines, 1987). Whenever a person experiences racket feelings they are in a script. By examining the script function, one can determine what the objective of the person is, and why they are experiencing the racket feeling. Rackets can be equated to pastimes where the payoff is one or another racket feeling. Rackets originate from complementary transactions (like pastimes), but have a racket payoff (like games). When a switch occurs in a racket, then a game has started.

3.5.4.4 Sweatshirts

The concept of Sweatshirts came about to refer to the consistency of people seeking out other people that suit the game that they are playing (Stewart and Joines, 1987). Stewart & Joines (1987) identify it as if a person is wearing a shirt with his game invitations printed on it.

On the front is the social message (what we consciously want the world to see). On the back is the psychological (secret message). The message on the back determines the people we choose for our relationships. These messages may be based on childhood injunctions, and form part of a person’s script.

Sweatshirts are identified by looking at people, stories, scripts, etc., and identifying their injunctions, or life-scripts. These determine what games the person will get involved in. Sweatshirt messages can be determined by first impressions (Stewart and Joines, 1987:234), but may just as well be determined from longer acquaintances.

3.5.4.5 Power Plays

In order to obtain strokes in a stroke-scarce environment, people may play numerous games. These games may become Power Plays when “certain people who have more power will use that power against other people to take away their fair share” (Steiner, 1974). Steiner (1974) defines a Power Play as a transaction whereby a person tries to obtain what he wants, against another person’s will.

Another means of using power is by using it as a defence against worthlessness from within or without. Relief can be obtained from this feeling by passing it on to another less powerful person (English, 1969; Steiner, 1974).

From a psychological analysis perspective, power plays are not that important as they are not used in therapy. From a TAO view however, power arrangements become crucial (Steiner, 1974). According to TA theory, people have a need to be one-up, or one-down to another person (Steiner, 1974). People are taught to obey people that are one-up, and to command people that are one-down. This unconscious scripting leads to the expectation of unequal distribution of power and the manipulation thereof.

For Power Plays to occur, people need to try and get what they want (strokes) by other means than straightforward asking. This assumes scarcity and an imbalance in power, whether it exists or not (Steiner, 1974).

Power Plays may occur from a one-up, one-down, or equal situation (Steiner, 1974). One-up Power Plays tend to escalate if not successful i.e., may start with low coercion, until physical force is used. One-down Power Plays are made from a defensive position, and normally involves sabotaging, or moves designed to hurt in retaliation. Equal Power Plays lead to head-to-head confrontation, and a sequence of moves designed to achieve partial advantage (Steiner, 1974). Power-plays are identified in games where power (positional, physical, etc.) is used to coerce others. The types of Power-Plays are determined by the relationships, i.e., equal, one-up, and one-down.

3.5.4.6 Rituals

Rituals are seen as a series of complementary transactions that are determined by social norms (Berne, 1964). They appear to originate from the Parent ego state, and are performed in the adapted child ego state (Stewart and Joines, 1987). This means that the “rules” of the ritual are made up by society, and that they are followed as a means of reward-seeking compliance. Rituals may vary from informal greetings and their variations across cultures and societies, to complex pre-ordained formal ceremonies such as the opening of Parliament, or a Catholic mass.

Rituals and Procedures are comparable concepts that need to be clarified from a TA perspective. They are both similar, in that once the first move is started it follows a pre-determined sequence until concluded. The difference is that rituals are

programmed by the Parent, and procedures by the Adult (Berne, 1964). This means that ritualistic practices are often defended as necessary, without due reason as to their usefulness.

3.5.4.7 Pastimes

Pastimes and games “are of interest... as they offer a matrix for recognition and other more complex forms of social intercourse” (Harris, 1995). They may be entertained until a more interesting pastime comes along, or the basis for a game is established (Harris, 1995).

Pastimes are seen by Berne (1963:149) as “*a chain of simple complementary transactions, usually dealing with the environment, and basically irrelevant to the group activity*”

Pastimes¹¹ are a means of avoiding (evading) the real issues at hand (Berne, 1964). As such it is made up of mutually beneficial transactions or strokes that may continue indefinitely until stopped, or a game is started. Pastimes may occur at any time when a person or group is:

1. Avoiding the issues at hand, or
2. When a new member joins or a group is formed. or
3. While the/a leader is absent, or there is a
4. Lack of time structure.

These pastimes not only serve the social needs of its participants, but also satisfy the psychological needs of stimulus/recognition/structural hunger (Berne, 1964). They may become semi-ritualistic, and be performed for no other reason than avoiding intimacy (Berne, 1961). Examples are discussions around the weather, current events, building a house, doing dishes, etc.

Pastimes (like games) have a defined sequence of moves or events, and may even involve unspoken rules and regulations, and/or specific gestures or ways of expression. Games on the other hand tend to have an ulterior motive, and a pay-off that may mean a loss to someone. Pastimes may be seen as a preliminary period of non-committal before partners or players for games are identified.

¹¹ Note: Where the words of a pastime are capitalised other than at the beginning of a sentence, then it refers to the Pastime or Game.

The analysis of pastimes revolves around the observation and analysis of transactions/scripts/groups for *recurrent activity* designed to:

1. serve as a means of passing time,
2. is an opportunity to gain psychological advantage (Strokes and recognition),
3. be a forum for establishing of games.

The Transactional Analysis of pastimes involves examining the ego states, the transactions occurring, the reasons or motivation, and the benefits for the players involved. For the purpose of this research, the most obvious pastimes are highlighted in terms of their characteristics, and then analysed on a Transactional level.

3.5.4.8 Games

Games are a sequence of transactions or moves intended to gain psychological gain for a participant (Berne, 1961). Berne defines a game as “a recurring set of transactions, often repetitious, superficially plausible, with a concealed motivation” (Berne, 1964). Games develop according to a script, not unlike a drama, and are split up into acts. Although few games have a social good (there may be), the majority lead to trouble (Harris, 1995). According to Harris (Harris), the sequences in games (as opposed to pastimes) are based more on individual than on social programming.

Most Games originate from the infantile interaction of “Mine is better than yours”. The aim of the game is to gain a psychological advantage of superiority (or as a defence against a feeling of inferiority (Harris, 1995).

Stewart & Joines (1987) identify the following typical features of games

1. Games are repetitive.
2. Games are played without Adult awareness.
3. Games always end up with players experiencing racket feelings.
4. Games entail an exchange of ulterior transactions between the players.
5. Games always include a moment of surprise or confusion.

The concept of games will be explored in more detail when looking at their analysis.

3.5.4.8.1 Degrees of Games

Berne (1964) identified three levels of games, namely, 1st, 2nd and 3rd degree. 1st degree games are “socially acceptable” and involve low-level stroking, task problems, and hassle times e.g., Are you ever going to finish your homework?¹² 2nd degree games have more serious consequences and involve threats, seduction, shaming and blaming e.g., Finish your homework or there is no dessert after dinner. 3rd Degree are played for keeps, and may end up in the morgue, the courtroom, or the hospital i.e., I’ll kill you if you don’t...

These levels are important in order to distinguish the types of games that are being played.

3.5.4.8.2 Game Analysis

Game analysis can be differentiated between a) practical and b) theoretical game analysis.

a. Theoretical Game Analysis

Theoretical game analysis *“attempts to abstract and generalise the characteristics of various games so that they can be identified from their context”* (Berne, 1964:47). In order to perform theoretical Games analysis, the following process as defined by Berne (1961) needs to be met:

1. First requisite is to recognise that a certain sequence of manoeuvres meets the criteria of a game. This is established by examining Pastimes, scripts, and rituals for game-like behaviour.
2. As many samples as possible are collected
3. Significant features of the collection are isolated
4. Certain aspects emerge as essential
5. These are classified under headings which are designated to be as meaningful and instructive as possible
6. Analysis is undertaken from the point of view of the one who is ‘it’, i.e., the patient, etc.

¹² Note: Examples used are from TA Tutor, Available at <http://www.ta-tutor.com/!dratri/xdr123p.htm> and (Stewart, Joines, 1987:234)

b. Practical Game Analysis

Practical Game analysis on the other hand “deals with special cases as they appear in specific situations (Berne, 1964:37). The analysis applied in this research is practical game analysis, and is specific to the context of Public Health in South Africa.

3.5.4.9 Game Analysis used in this research

The approach used in this research is to take the pastimes, rituals, script or story, and analyse the transactions. Only the ones that fit the format of Berne’s (Fox, 1975) game formula will be categorised (and named) as a game This formula is defined as: CON (hook) + GIMMICK (weak spot) = RESPONSE → SWITCH → CROSSUP (switch) → PAYOFF.

The following is an example from Smith (2001b:17):

Formula	RSCU - Why don't you	VICT - Yes, but
CON		<u>I've got a problem.</u>
GIMMICK	<i>What can I do to help?</i>	
RESPONSE	<i>Why don't you...? Have you tried...?</i>	<u>Yes, but...</u>
SWITCH	<i>I don't know what else to suggest</i>	<u>Thanks for trying anyway</u>
CROSSUP	<u>???</u>	<u>???</u>
PAYOFF	<u>I'm no good at helping.</u>	I knew she couldn't help me

Table 7 TA Formula example (Smith, 2001b:17)

For game identification, the actual name or acronym of the game will be used as defined by Berne (1964) and others e.g., YDYB = Why don't you – Yes but..., or a new name will be defined to aid further interpretation. The objective of the Game analyses is that it should provide sufficient level of detail of these games for the purposes of this research, and to be further validated.

3.5.4.10 Karpman Drama and Winners Triangle

The concept of Game analysis has been reduced to a simpler model that analyses the exchange in roles of players. This is based on the concept of drama triangles such as first identified by Karpman (1968) and English (1969). Three roles are required for a drama or winners triangle to exist. As in life, these triangles can either be a drama triangle that drains an organisation (Sapping), or a Winners triangle that enhances an organisation (vitalistic).

“Good magic can be distinguished from bad magic by the effect it has on its recipient. If it has the effect of adding power to the recipient it is good; if it decreases power it is bad (Steiner, 1974:65-66).

The following two sections examine these Sapping and Vitalistic Triangles.

1. Drama Triangles (Sapping)

Karpman (1968) indicates that whenever people play games, they step into three script roles, those of (P)ersecutor, (V)ictim, and (R)escuer. To assist in the easy visual identification of these roles, the following colour and style will be used: The Persecutor position is shown in **bold red**, the Rescuer in *blue italics* and the Victim in underlined green.

Persecutor (P) – Discounts others’ value and integrity. Extreme persecutors may discount other people’s right to life and physical health

Rescuer (R) – Discounts others’ ability to think for themselves and act on their own initiative.

Victim (V) – Discounts himself. If the Victim is seeking a Persecutor, then they agree with the Persecutors discounts and view themselves as someone worthy of being rejected and belittled. If seeking a Rescuer they will believe that they need the Rescuer’s help in order to think straight, act, or make decisions. Stewart & Joines (1987:237).

The following reviews the characteristics as defined by Smith (2001a).

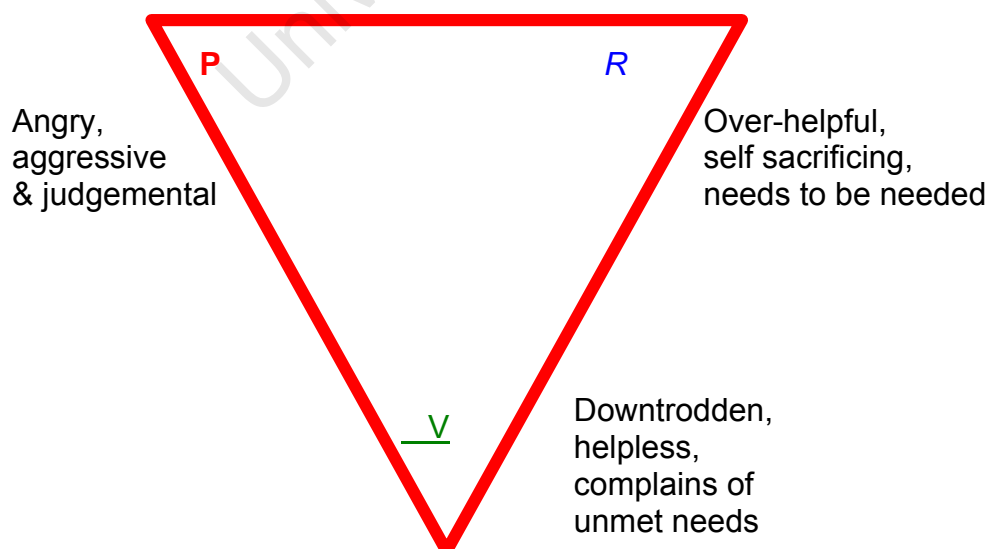


Figure 6 Karpman (1968) Drama Triangle (Smith, 2001a)

This triangle forms the basis of the multiple “Dramas” that transpire in organisations.

2. Winners Triangle (Vitalistic)

The winner’s triangle is geared to achieving authentic behaviour. In the winner’s triangle (Choy, 1990) the Persecutor is replaced by being Assertive, Rescuer by Nurturing, and Victim by Vulnerable.

Assertive (A) – Accepts others’ value and integrity.

- Knows own feelings, needs and wants
- Non-judgemental
- Uses ‘I’ messages

Nurturing (N) – Accepts others’ ability to think for themselves.

- Gives help when asked
- Cares and understands
- Doesn’t need to be needed by others

Vulnerable (Vul) – Accepts self.

- Shares real feelings

Following is a graphical illustration from Smith (2001a) in Figure 7.

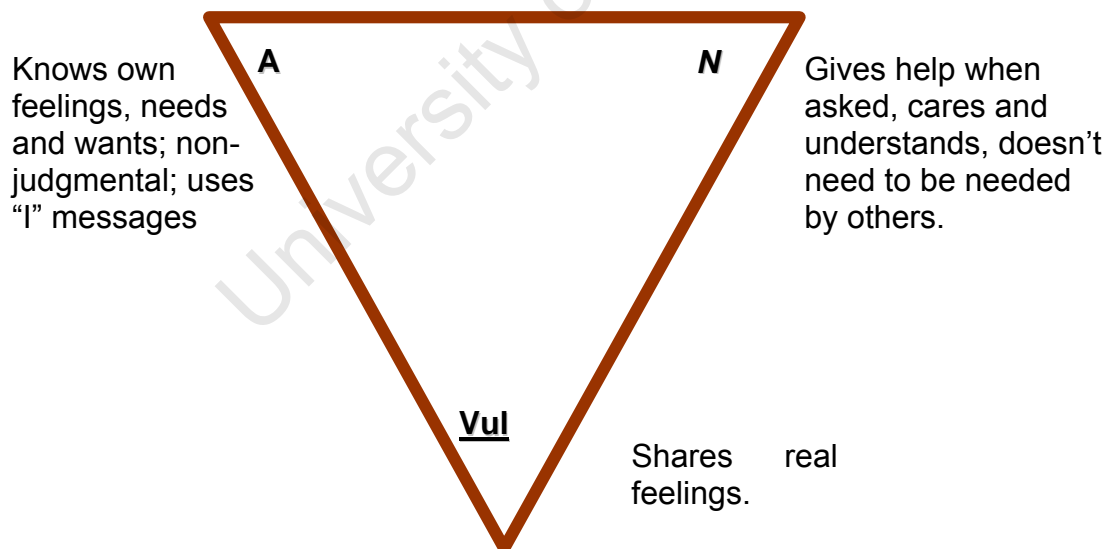


Figure 7 The Winners Triangle (English) (Smith, 2001a)

This triangle prevents “Dramas” that transpire in organisations and results in authentic behaviour and actions.

3.6 Data Collection

The primary method of data collection was by means of observation, semi-structured individual interviews, note taking, photographs, documentation and evaluations. Interviews were recorded with a digital voice recorder. Interviews were done in person and/or telephonically. Further information was requested by email where applicable.

3.6.1 Observation

Mohr (2006:15) provides an apt analogy of the process of observing an organisation. He proposes that you are an invisible visitor from Mars, and that you enter the organisation to report on the patterns. You gain an impression of the organisation, and what people are doing and dealing with. You look at the attention of the staff and managers, and where it is directed. You look at the names and titles, and identify roles. You look at how relations are defined. What the space and furniture of the rooms tell. What other symbols tell. Which persons have contact with whom? You listen to the messages (verbal and non-verbal). You look at how people solve problems, and deal with success and failures. How they celebrate.

This approach is an anthropological approach based on ethnographic methods. The particular aspects of ethnography that was focused on, was direct, first-hand observation of the organisation and behaviour and conversations with differing levels of formality.

3.6.2 Interviews

Interviews were also used as a means of data collection. Participants were asked for permission to record the interview. Notes and photographs were also taken where allowed.

3.6.2.1 Candidate Selection

Candidates for interviews were identified from meetings while working in the Public Health System. These people were approached to discuss the purpose of the study, and enquired whether they were available for interviewing.

3.6.2.2 Setting up Interviews

Interviews were set up by telephone/visits, and were not made more than 1 week in advance. All the people approached were available for interviews. The times scheduled were based on their availability and commitments.

3.6.2.3 Recording of interviews

The benefits of using audio recordings are numerous. Some identified by Saunders, Lewis & Thornhil (2000) are that the interviewer can focus on listening and questioning, that it provides an accurate and unbiased record, and that the medium suits the interpretive paradigm in that it does not impede the unstructured process of collecting information (Crabtree and Miller, 1992). The benefits of a digital recording are that the source data can be archived on disk for future analysis.

The disadvantages are that the technologies are intrusive (Saunders et al., 2000) and that subjects may feel uncomfortable in being recorded. Permission was obtained prior to the interviews for recording the conversation. Some note taking was also used and visual evidence was digitally photographed.

3.6.2.4 Supporting Material

As part of the research, an introductory letter was given/emailed to the participants. The participants were also required to sign a letter of approval for the interview, and the recording thereof. A digital voice recorder was used to record the interviews, and notes were made on a template that was developed for the TA interviews.

3.6.2.5 Transcription/Notes/Photographs

The key voice recordings were transcribed. The other recordings were re-played afterwards, and the notes expanded. Key points in the recording were identified by using the time indicator, e.g., at 10:14 minutes. Photographs were re-sized for inclusion in the research. The notes, photographs and voice recordings were stored digitally, and form part of the material presented with this research.

3.6.3 Work Experience

The author is an Information Systems consultant practicing in the public sector. As such, he has been involved in assisting Public Health authorities with

various matters relating to information systems since 2003. Part of the research input has been drawn from this experience.

3.6.4 Conferences

Health Information Systems Conferences such as WITFOR, INDEHELA and HISA were attended. Notes were made of speakers' presentations, and the presentations were downloaded after the conference (where available). The preliminary findings of the literature survey were presented at the HISA 2006 conference. The preliminary findings of the data analysis were presented at the INDEHELA conference in Cape Town. A presentation of the draft findings was made at an eHealth conference, and a workshop on "Using ICT for improved healthcare delivery in an African Context" was held in Gauteng (Tech Health Summit 2007). The bulk of the Literature Survey was presented in a workshop at the IRIS 30 conference (Uys, 2007).

3.6.5 Selection Method

The initial selection was an opportunistic purposeful sample (Crabtree and Miller, 1992) and was targeted at people that this author knows at health departments and hospitals at a provincial and/or district level. The provinces of Gauteng, North West, and Western Cape were included in the selection. Contacts had been established at different levels in all these provinces. Refer to Appendix A for details of the interview contacts. To maintain confidentiality, the names of the interviewees are replaced with a role description.

The types of roles that were interviewed are CIO, HIS Administrators, Administrators, Doctors, Nurses, and Patients. Once the initial people were interviewed, further meetings were held with the referred contacts. This approach is referred to as chain sampling.

3.6.6 Timeframes

This interviews and research for this study was done between the 30th September 2005 and May 2006.

Item	Date	Deliverable	Description
1	5 May 2005	Research Proposal	High level research proposal and research context.
2	3 Jul - 1 Sep 2005	Coordination with other research efforts and gaining access.	Establishing contact and positioning research with INDEHELA, CITANDA, MRC & HISP. Contacting representative organisations and provincial departments to allow access for research.
3	2 Sep - 11 Aug 2005	Research Methodology & High level Literature Survey.	Further expansion on research methodology including basic research questions, interview process, sample and contact people. Integration of study in context of existing literature.
4	11 Aug-30 Sep 2005	Ethics Approval	Approval by the Ethics Committee
5	15 Dec 2005-May 2006	Interviews	Conducting of interviews in Gauteng, Free State, NW and Western Cape.
6	3-5 May 2006	Conference	Present Literature Survey at HISA conference
7	Apr-Sep 2006.	Transcription	Transcriptions and review of notes and recordings
8	5-6 Sep 2006	Presentation	Present preliminary analysis at CPUT/INDEHELA Conference
9	Sep 2006 – Jul 2007	Data Analysis and Key Findings	Documenting and exploration of theoretical context and emerging perspectives.
10	11-14 Aug2007	Conference Paper	Paper for discussion at IRIS 30.
11	Aug-Oct 2007	Application	Evaluation of a Public Clinic administration system
12	31 Oct 2007	Workshop	Workshop held with Public Health representatives at Tech Health Summit
13	Aug- Dec 2007	Integrate Findings with Literature	Further integration of findings with applicable literature.
14	Dec 2007 –Jan 2008	Findings	Compilation of findings and conclusion.
15	Feb-Mar 2008	Research Hand-in	Printing and Binding Final hand-in for examination purposes.

Table 8 Timelines for Research

Table 8 highlights the key deliverables and timelines for the complete report.

3.6.7 Research Ethics

3.6.7.1 Access

Prior permission was requested from the relevant institutions to conduct this research. The MRC, UCT, UWC and CPUT were also approached to assist in facilitating access. Individual interviewees were asked for permission to conduct and record the interviews.

3.6.7.2 Privacy

The report is not confidential and statements made during interviews will be used. Personal names are not used to protect the identity of the individuals.

3.6.7.3 Confidentiality

Respondents' participation was non-compulsory and their personal information will be kept confidential.

3.6.7.4 Ethics

A considerable number of articles have been written on the ethics of Health Research in SA¹³. A key reference is the "Guidelines on ethics for medical research" (Benatar et al., 2002). The basic ethics code of behaviour was adhered to while doing this research. As this particular research is focused on the activities and practices surrounding HIS, no data was recorded regarding sensitive medical information, or information on patients. An ethics declaration was completed for submission to the Ethics Committee in the Faculty of Commerce. This was approved prior to the start of the research.

3.7 Reporting method

The reporting method is based on the interpretive approach and will examine individual perspectives and attempt to form a better understanding of the whole. The collected information will be analysed in a continuous process and will not be a specific phase of the research.

This is consistent with the interpretive paradigm in that the understanding of the context complements the ongoing research (Klein and Myers, 1999). Use will be made of narrative by the subjects as well as updating of the questions used to aid in

¹³ See <http://www.sahealthinfo.org/ethics/ethicsreferences.htm>

improving the research framework. Specific attention will be given to the TA theoretical aspects of the research.

3.8 Methodology Summary

Following is a high-level summary of the research methodology adopted in this research.

3.8.1 Context

The use of information, information systems, and information technology in public health in SA is directly linked to the organisational context of the system. Such information systems may vitalise or sap the health of the organisation and the public. The outcome or effect is directly linked to the intention or desires of the participants in the system.

3.8.2 Thesis

To gain an understanding of these intentions, the system is examined by the way it behaves and thinks, i.e., the social and psychological activity of the organisation.

In this research, a metaphor of a human organism is used for the Public Health System. This defines the system as a body (social) and mind (psychological). As with individuals, organisations have unwritten scripts that determine the actions and functions of the individuals in it (Jongeward, 1973). Pastimes and games form a large part of psychological activity (Berne, 1964) and it is this aspect of Transactional Analysis that informs the research.

The thesis is that pastimes and games form the psychological “mind” or personality of the organisation, and becomes the determinant factor for predicting the social behaviour of the system.

3.8.3 Design

To aid in understanding the mind of the Public Health System, a Transactional Analysis perspective is used.

3.8.4 Method

The primary method of research was done through the application of transactional analysis in organisations (TAO). Information about the system was

collected as a result of years of consulting to the industry, as well as through observation and personal interview sessions. Interviews were recorded, and notes were made according to a framework of social and psychological transactions. The environment and activities were also noted during the interview.

3.8.5 Data Collection

The data for this research was collected by means of interviews, notes, photographs, attendance of Health conferences, and prior experience in the Public Health System. People interviewed were doctors, nurses, administrators, and patients.

3.8.6 Analysis

The analysis of the data examines the scripts or stories in the Public Health System for evidence of pastimes and games. The pastimes and games are separately described and analysed according to the Berne (1964) game theory and Karpman (1968) drama and English (1969) winners triangles.

3.8.7 Reporting Method

The reporting is done interpretively by examining individual and systemic perspectives to aid in a greater understanding of the Public Health System.

3.8.8 Conclusion

Chapter 3 outlined the focus of the research, and how the material will be analysed. Chapter 4 details the research that was conducted, as well as its analysis.

“We do not see things as they are, but as we are ourselves”
Quote attributed to Tomlinson (1873-1968) or the Talmud

University of Cape Town

Chapter 4. Data Analysis

This chapter details the data that was collected, as well the analysis based on the Transactional Analysis perspective as outlined in Chapter 3. The first section outlines the subject and material of the research, and then continues to present a framework of the PHS. The second section looks at the PHS from a TA perspective, and analyses the mind as well as the external appearance of the PHS.

4.1 Context

The context for this research is the Public Health System in South Africa. Communities that were included are Provincial, District, and Municipal Health in North West, Gauteng, and Western Cape Provinces. The focus areas were people specialising in the delivery of public health services, information systems, as well as patients/clients.

4.1.1 Sampling process

The initial contact in the Public Health System was facilitated by Doctor2 (see interview details later) who contacted ISAdmin3 for an introduction. When the INDEHELA team met with ISAdmin3 she set up the meeting with ISAdmin2, and suggested that we interview ISAdmin1 and ISDev1 as a software provider for public health. ISAdmin2 in turn set up the interview for us with Admin1, ISSupport1 and Nurse1. ISDev2, CIO1 and ISCons were met at Health conferences. Nurse2 was met during a recent project that I was involved in, and she introduced me to Admin2 and Doctor1. Doctor1 referred me to Nurse3.

Patient1 knocked on my front door one day, collecting money for HIV/AIDS work, and Patient2 is my domestic worker. PPatient was a work colleague of mine. PAdmin was contacted after someone mentioned to me the good work that her foundation was doing in HIV/AIDS treatment and care.

4.1.2 Interviews and Visits

The following table outlines the interviews that were conducted. Names of interviewees are withheld to protect the identity of the people involved. Names and contact details of interviewees are available on request. For the complete interview listing, please refer to Appendix A. The first five interviews were conducted jointly with the INDEHELA team.

Item	Date	Description
1.	Interview dates and times	Twenty people were interviewed between 31 August 2005 and 25 May 2006. The interviews ranged from 20 minutes to 1h 28 minutes.
2.	Geographic Distribution	Candidates for the interviews were selected from three provinces, namely, North West Province, Western Cape, and Gauteng.
3.	Locations	The visits were conducted primarily at the interviewees' places of work. Visits were made to the Department of Health situated in the provincial government buildings in Cape Town, Johannesburg and Mafikeng, Hospitals (Saldanha/Vredenburg, Ceres, Tygerberg, Karl Bremer, and Vincent Pallotti) a home converted into a HIV/AIDS centre, a private health clinic attached to a pharmacy, as well as clinics in the Gauteng region.
4.	Roles	The roles of people that were interviewed were 2 Doctors, 4 Nurses, 3 Patients, 2 Administrators, 3 IS Administrators, 2 IS Developers, 1 IS Support Person and 1 CIO.
5.	Experience	Interviewees' experience in the Public Health System was typically more than 10 years.
6.	Qualifications	People that were interviewed had a range of qualifications. Examples are Matric, Nursing diplomas, Computer Science degrees, etc. The people that were most highly qualified were the doctors, with MB. ChB, MBA, Postgraduate Diplomas in Datametrics and M.Phil etc.
7.	Levels of the Health System	The levels of the Public Health System that were represented were Chief Director, Director, Deputy Director, Assistant Director, and Clerks.
8.	Personal information	Thirteen (13) females and six (6) males were interviewed. Based on estimates, their ages ranged from 23 to about 54.
9.	Collected Data	Twenty (20) recordings were made in .wav format and converted to mp3 format for storage and distribution. A total of 14 hours 29 minutes were recorded. The recordings are included on the CD that accompanies this research in the recordings folder. A number of photographs were taken. Representative photographs are included in this dissertation.
10.	Transcriptions/Notes	A number of the recordings were transcribed. The recordings were reviewed, and notes added. The transcriptions and notes are included on the CD that accompanies this research.

Table 9 Interview Particulars

All the interviews that were conducted are included as formal references in Appendix C. When referencing these interviews outside of this chapter, the Harvard

format will be used. In this chapter, however, when quoting the interviewee directly, the time of the quote in the recording will also be indicated as minutes and seconds (mm:ss). This will enable the reader to find the quote in the recording.

4.2 Overview of Data

Following is a brief overview of the collected data, notes and environment in the sequence that it occurred. This provides a context to the reader as well as sets the scene for the subsequent analysis and findings.

4.2.1 IS Administrator 1 & IS Developer 1

ISAdmin1 and ISDev1 work for the same company that develops hospital and clinic administration software. ISAdmin1 is a systems administrator and has been involved in the Public Healthcare field for approximately 25 years, and ISDev1 is a software developer on the same software package. ISAdmin1 and ISDev1 are also married to each other (engaged at the time of the interview).

The interview was conducted jointly with the INDEHELA research team from Finland. The interview occurred at the company's premises. We were offered coffee/tea on arrival, but this only materialised near the end of the interview.

ISAdmin1 initially did most of the talking, and ISDev1 occasionally left the room to attend to business matters. ISAdmin1 is primarily involved in training, supporting and administering the software at approximately 10 clinics and hospitals. The interview started with a discussion on ISAdmin1's personal situation and career history (Questions raised by INDEHELA team). The discussion then continued to revolve around factors that may disrupt the functioning of the Health System, the requirements for a career in the system, and the type and level of skills.

"I don't think they are getting people that are very clued up and know about things ...They can't afford to pay more to, like, newly qualified people"
(ISAdmin1):10:35.

And from ISDev1:

"...the calibre of person that you get for what you are prepared to pay, you can't actually expect that much work out of them" (ISDev1):11:05.

ISAdmin1 further deliberated the acquisition of software in Public Health, recruitment, and other challenges such as corruption, power failures, copper cable

theft, etc. Eventually the coffee/tea arrived, and the interview was concluded with some social discussions.

4.2.2 IS Administrator 2

ISAdmin2 works for the Provincial Government, started off as a Nurse that got involved in the implementation of Information Systems, and is employed as a Deputy Director of IS.

Visitors to the Provincial Government are required to use street parking. On arrival, visitors report at an access controlled facility, where ID books are presented, personal details captured, person to be visited is contacted, etc. The whole process was extremely cumbersome and time consuming (> 20 min).

In ISAdmin2's office, beverages were offered and quickly provided while small talk was made. The office was large, with a panoramic view, and a separate round table for meetings, in addition to a reasonably large desk with a laptop on it.

The interview was started with the INDEHELA team explaining the background of their research. ISAdmin2 continued to explain her role in the department, her department's function in the healthcare system, as well as the process of acquiring new technologies.

"We have a very formal structure in approving our new systems"
(ISAdmin2):52:15.

Of particular interest is the comment on the responsibility of Information Management in the department.

"Because in Health Services the focus is on health...Information management is seen as something somebody else will do" (ISAdmin2):32:56.

Continuing, ISAdmin2 explained the role of Information Systems in the province, and how they implemented and used the software in the hospitals, as well as the challenges experienced in running these systems with a service provider.

"It will not help the staff to understand the way I've worked before, and the way I have to work now" (ISAdmin2):43:37.

The focus of the department was described as follows:

"The political situation drives what we put in...the direction that we address our efforts" (ISAdmin2):45:30.

ISAdmin2 focused on the list of possible challenges that they may experience in delivering their services. The interview concluded after about an hour and a half with ISAdmin2 facilitating further interviews or contacts with ISSupport1 and Admin1.

4.2.3 IS Support 1

ISSupport1 started as a clerk in public healthcare in 1986, and was asked to become involved in core training in 1999. Since then she has been involved in training and is currently a Chief Admin Clerk. The interview was held in a computer training room in the hospital, as she was sharing an office with limited privacy.

The interview started with questions from the INDEHELA team about her family, career background, and skills/education required for the position.

“Because you are a public servant, it’s like in-service training...there’s nothing that you are taught at school.” (ISSupport1):4:32.

Questions were raised about challenges that may restrict service delivery, and the importance of specific attributes. Other questions covered areas such as technology adoption and usage, as well as job satisfaction, and how software and skills aid in servicing the patients. The provision of preventative health care was broached, with the hospital providing services such as exposure to needle pricks, flu vaccinations, etc., to staff.

“Unfortunately because we are a tertiary institution we do not offer that facility to the public...they have to go to the private healthcare services for that” (ISSupport1):39:29.

Other sections are responsible for aspects such as access to health information (currency and quantity), as well as medical research.

“That is all done on a managerial level such as the medical superintendent” (ISSupport1):41:13.

Further discussions centred around the Uniform Patient Fee Structure (UPFS) and its implementation to standardise fees on a national basis, as well as adoption, implementation, and budgeting of new software systems.

“If you implement a new system, it has to be within your budgetary framework...When we decided on this new computer program,...we had to curb other expenses because we were already over-expended (on the system)” (ISSupport1):43:08.

In conclusion, ISSupport1 deliberated on the conducting of medical trials, and the transition to the new computerised system, as well as the challenges experienced with this. The interview ended with a sharing of names and contact details, and discussing a visit to the wards and registration facilities.

4.2.4 IS Administrator 3

ISAdmin3 has been involved in IS in Public Health for more than 30 years. She is employed in a unit that is responsible for the planning and deployment of IS for provincial Government, and she focuses on HIS. She has a B.Soc Sc (Social Work) and a B.Sc in Medical Engineering. The interview took place at one of the hospital's cafeterias (A picture of the cafeteria is shown in Paragraph 4.5).

The interview started with the INDEHELA team enquiring about the organisation that she works for and how it came about. ISAdmin3 elaborated on the computerisation of Primary Healthcare, and the use of IS to provide health records.

"You can see people waiting in queues for up to 6 hours, not only to see doctors or a nurse, but also to collect their medicines... If we can find a way of printing labels for locating files to speed it up..." (ISAdmin3):5:00.

The rest of the interview revolved around the example of a paperless hospital (Albert Luthuli), keeping control of stock and medicines, the differing levels of services that the province provides, and the rollout of the HIS in the province.

"Every clinic that we went to had a different culture...that came from the sister in charge" (ISAdmin3):11:45.

The dependency of the Province to use the Government legislated State IT service provider at very high costs was remarked on.

"The costs to connect the clinics are extremely high (R6000 per site), which is money we could rather use to employ more staff... We are looking at using wireless technologies to reduce costs" (ISAdmin3):17:50.

The difficulty of retaining staff, the extended periods of training (what should take 4 years is taking 6), overworked staff, and high levels of stress and HIV/AIDS were raised.

Regarding IS training amongst medical staff, ISAdmin3 confirmed that it is not on the curriculum, and that it may make sense to provide IS training to medical practitioners, as well as health training for IS practitioners. ISAdmin3 also mentioned

that the larger hospitals are now trying to provide nurses with Internet access (doctors already have).

The mindset channel was mentioned as a means to provide health information on how to stay healthy and promote free health worker education. Unfortunately this service is only available in public health clinics, training centres and prisons, and a special decoder and dish is required.

The prevalence of HIV/AIDS appears to have resulted in greater focus and funding at PHC level, as well as a greater focus on collecting information about the impact/spread of the virus, and its treatment (AZT, vaccinations, vitamins, etc.)¹⁴. Furthermore, free services to pregnant woman and children younger than six in Public Hospitals was talked about, as well as the challenges with registration of births.

“At the moment once the baby is born, you need to go to Home affairs, and say this is the mother, and this is the father...then you get a certificate with an ID number for the baby” (ISAdmin3):39:00.

Lastly, improvements to the system by using innovative technologies such as barcode scanners and wireless connectivity were raised. The interview was concluded by sharing similarities and differences with the Health System in Finland.

4.2.5 Nurse 1

Nurse1 is a Nurse at a District (Level1) Hospital. She has been nursing for 34 years, and has been at the specific hospital for 14 years. The hospital has a complement of 110 staff (medical doctors, 3 interns, 53 nurses and 52 other staff, e.g., cleaners, etc.), 54 beds (24 in the surgical ward), and is in the process of moving to a new facility that is being built.

The interview was conducted at the district hospital. Following is a comment on the role of the District Hospital by Nurse1:

“If the clinics have problems they send it to us...If we can’t handle it we send it to the Tertiary level hospital” (Nurse1):1:20.

The key focus of the interview was on the overworked staff, overcrowded hospital, and impact of power failures, poverty, TB and HIV/AIDS on their patients and staff.

¹⁴ Zidovudine (Retrovir®, AZT) is a drug used for Anti-Retroviral Therapy (ART). A more generic name is ARV or Antiretroviral.

*“We have an ARV clinic, but the hospital is too small for everybody”
(Nurse1):15:40.*

At the time of the interview, Nurse1 was acting as Head nurse due to the Matron being booked off sick for 5 months due to stress/illness. The shortage of funding (for increased staff) was also attributed to funds being re-allocated to more needy (restricted) areas such as the Eastern Cape and Natal.

*“The minister wants to come and open the hospital to get political gain.”
(Nurse1):22:30.*

In the meantime, a new clinic had been built to accommodate the increasing number of patients. This was despite the fact that the hospital does not have the required number of staff (nurses, doctors), equipment, and furnishings. Another aspect that was mentioned was the fraudulent activity of recruiters unofficially recruiting new staff for the hospital, with people arriving for work, with no work available.

Further comments centred on the use of information systems in the hospital. The interview ended with the INDEHELA team explaining a bit of the background of the research project.

4.2.6 IS Consultant

At the start of the interview, ISCons commented on the electronic recording device, and offered some coffee. ISCons is an Information Systems consultant in Public Health in South Africa and other countries. He has been a practicing Consultant in SA for the past 10 years. The interview started with a discussion on what it is that I am trying to establish with this research, looking at the Vitalistic, and Sapping characteristics, and if IS should have a positive impact, how PHS can align with this.

ISCons responded that there is a shift to talking about Patient centred systems rather than electronic health records. The focus is to be on Patient rather than systems where Patient is an external object and are treated as a by-product of the system

“A friend of mine used to say...I started my medical studies with an interest in assisting, helping and treating sick people, and I ended my studies with an interest in diseases who happen to have a human host” (ISCons):04:50.

He continued to describe a worldwide resurgence in more holistic healing, and an increased scepticism of the biomedical industry, which is driven by pharmaceuticals and the medical industry. He also explained some of the history of why there is a predominant focus on technology as opposed to more traditional health methods.

There is also a resurgence of viewing the systems (software) from a patient's point of view, and looking at the long term impact on health (ISCons).

"How do you, in the longer term, define a system that positively impacts on patients?" (ISCons):10:14.

He stated that initially (when they started in SA), all the health indicators were workload or input oriented.

"Basically the management was interested in what the staff are up to...They were not particularly interested in the people who went to the public sector, because they were seen as poor, disempowered, not belonging to the ruling elite" (ISCons):12:15.

His viewpoint was that they were trying to shift the focus to health status, and using information for action, and improving healthcare and delivery, and that now in PHS management they are seeing the same shift from financial factors to healthcare delivery.

The example he used was that of the ambulance service, where the majority of the indicators are cost oriented, such as acquisition costs, running costs, number of kilometres etc. In this service, they do not measure how people have been helped or whether any lives have been saved by the service. He added that as a result, the ambulances are used mainly as a ferrying/taxi service.

"It therefore becomes very difficult to evaluate what the impact is on people's lives (and health, as the indicators are not there)" (ISCons):14:12.

He continued that the concept of Health is a vague concept (to the PHS), and that it is difficult to quantify. It is easier to focus on, plan and measure the input criteria such as number of hospitals, budgets etc. This concurs with the type of information that senior management have to report on, on a regular basis.

"The real question is...How much health do we get for every rand that we put in" (ISCons):15:36.

ISCons stressed that one needs to be aware of one's values, prior to implementing any strategy in the PHS. He also says that one needs to start with a holistic perspective, and look at the organisation as a whole.

According to ISCons, decisions are made in PHS to mainly benefit the staff, and that the focus is system-centric. The example that he used was that the reason why scheduling appointments in the PHS won't work, is because staff want patients to queue from early in the morning, so that they can have the afternoon free.

ISCons further deliberated on the history of PHC in SA, and the apparent disparities in expenditure between the different races. He also explained the disproportionate expenditure on Tertiary and Clinical software, as opposed to PHC software. He claims that ± R700-800 million is spent on the large institutions and that only about 5% is spent on PHC. This is in contrast with the total spending on PHC which comprises approximately 30% of the budget.

ISCons explained the expenditure of ±R15, 4 million on the rollout of an ARV module by the State IT Agency (SITA), and why this was a failure. According to him, they spent most of the money on hardware and software. Then they got IT technicians to install the software, and show the users how it worked. The software was also not particularly user-friendly. This resulted in no buy-in by the users, and no adoption of the system.

ISCons then outlined the approach that they have adopted in implementing software in Primary Health Care (PHC) in South Africa. They implemented a pyramid flexible structure where each level of the system can access the data that they collect. This helps people to see the value of the data that they capture. Their focus was on using information for action at all levels of the system, where the type of data that is captured is flexible at each level of the system.

"We came in with a different approach...also in many ways an egalitarian approach...for PHC, for empowerment, for decentralisation, improved healthcare etc." (ISCons):29:24.

According to him, their strategy in SA was to shift the focus from curative to preventative, and to change from workload of people to health statuses, and from input to output indicators (including impact).

"We see our development and implementation as part of an overall health sector reform" (ISCons):14:33.

They also focused on a “start small and grow” approach, with built-in flexibility of the software. According to him, the countries that they have been involved in all have differences in their approaches, and that they advocate a “start with what you can handle approach”. He believes that 70% of HIS result in failures because *“the capacity of the customer to internalise the system is not there”*.

In contrast to their approach, the PHS favours a “Big Bang” approach, where all the hardware, software and resources are procured at the inception of the project. This, he believes, is as a result of the drawn-out inflexible bureaucratic processes that do not allow for such flexibility. He also believes that it is more convenient for the people responsible in the procurement to do one large tender, as the workload is more in a number of small ones.

ISCons then further discussed the differences in SA from other countries. He compared the approach in SA with the approach taken in Cuba which is more centralised, command focused. In SA, the trend is to devolve power to lower levels, up to a point. The problem In SA is that some people get dominated by suppliers or crooks.

“The capacity for rational decision making is poor at lower levels”
(ISCons):31:20.

He also discussed the influence on their approach by Scandinavia, Europe, and the US.

“In the globalised world, influences are coming from everywhere”
(ISCons):33:15.

ISCons feels that there are strong pressures from big multi-national IT companies. ISCons argued that the advisory bodies to the SA President should not be comprised primarily of vendors, as they would have a commercial agenda. More collaboration should be sought with other DC such as Brazil and India, etc. The response from PHS was that these countries were invited, but wished not to participate.

“When it comes to collaboration with other developing countries...It becomes a question of who is perceived to be in the driving seat.” (ISCons) 35:36

ISCons also argued that the SADC countries distrust each other more than they do their former colonial powers. ISCons believes that there is still a predominant push to large centralised IS, but that there is a change in looking at more collaborative approach.

“The belief in the big bang super system has largely been dropped” (ISCons):37:34.

The interview concluded with the reasons why ISCons is involved in the work that he is, and to what he wants to achieve. Of key importance was the improvement of quality of Health Care, and to implement a software solution that works.

“The focus on systems ends up where your day to day focus is. In order to not lose your vision, you need to stand back and see where you are going” (ISCons):48:24.

Of secondary importance was to do action research as part of a political change process (as part of being a change agent), and to a lesser extent to have an income to sustain oneself.

4.2.7 Administrator 1

Admin1¹⁵ has been involved in public healthcare for more than 22 years, and is an administrative clerk responsible for hospital fees, medical records, and admissions. She received no formal training for this role, and had no further education after leaving school.

The interview with Admin1 was conducted in her office at a public hospital. The introduction and referral by ISAdmin3 was sufficient to arrange the meeting. The interview was conducted in Afrikaans, and no INDEHELA members were present. During the meeting I was offered coffee from her cupboard, but she did not have any due to health reasons. It was noticeable that she was overweight and struggling with her health. The interview commenced with Admin1 describing her role in the hospital, the processes of admission, and the importance of certain information.

“Patient numbers are very important, and income & expenditure” (Admin1):2:45.

The interview continued with Admin1 describing the importance of following procedures, and the training that they provide through operating manuals to other hospitals. The levels of hospitals/clinics, the services that they provide, and the effect that this has on patients were then discussed.

“At the districts hospitals, patients have a long wait. Just certain procedures are catered for” (Admin1):8:00.

¹⁵ The interview with Admin1, Nurse2 and Admin2 was conducted in Afrikaans, and the quotations have been translated.

The shortage of nurses and the emigration of nurses were raised. The fact that some nurses/doctors do come back due to the poor working environment overseas, was raised. Following on from this, the type of information that was collected was discussed, as well as the distribution thereof. The difficulty for certain patients to attend the hospitals/clinics due to their remoteness, and the type of services offered were mentioned. Admin1 claims that approximately 3000 emergency patients and 15000 outpatients visit the hospital on a monthly basis and that patients had to be referred to them.

“It is the system that caters for it. You firstly need to be referred (with a letter of referral). You can’t just come” (Admin1):18:40.

Every referral implies that the patient has already visited a clinic, waited in the queues, seen the doctor, and received a referral. The hospital also does not give preferential treatment to subsidised patients who visit the hospital, as opposed to public patients. According to Admin1, the public expects the same type and level of service as is available from the private hospitals, but that the system cannot cater for this due to the number of patients that are being admitted. The process of handling complaints and compliments were also explored. Complaints are thoroughly investigated, with the possibility of resulting in disciplinary steps. Compliments may be taken into consideration in exceptional circumstances for improved performance assessments.

We further explored the concept of public health information and keeping the public informed of health matters. What was interesting was that the only healthy people that attend the hospital are staff, suppliers, and visitors of patients. It appeared as if the majority of “Health Information” was on diseases (HIV/AIDS, TB, etc.), and was available as posters, pamphlets, and videos that are screened in waiting areas. It furthermore transpired from Admin1 that about 80 % of visiting patients were trying to get rid of/avoid their illness, whereas only about 20% of patients were seeking good health (avoidance of pain, as opposed to the pursuit of pleasure).

According to Admin1, in exceptional circumstances patients may attend the hospital because they are seeking attention (lonely, with no friends). She appears to believe that one’s mindset can have an impact on your recovery from an illness. At this point we discussed the appearance of the hospital, and the way that patients are

treated when they arrive. This was related to the way that patients feel when visiting the hospital.

“In the government context, everything is run-down. There is no money...It is run-down, but clean” (Admin1):39:40.

With admission, certain information is obtained from the patients. Information is also kept on waiting times and type of case (whether it is an emergency, etc.). During the visit certain clinical information is captured, and then again when prescriptions are issued and payment is processed. Further access to the organisation was requested and it was evident that the more senior people are very difficult to get hold of (because they are so busy). Further questions centred on the use of the different buildings on the premises, and which sections are occupied by the Health Department. Lastly, the difference between the conditions at this hospital, as opposed to the other hospitals in the area was emphasised by Admin1.

“It is worrying to see how the other hospitals are deteriorating...the buildings are old, and they are just getting older” (Admin1):60:00.

The interview was concluded with the sharing of contact details.

4.2.8 Nurse 2

Nurse2 is a Radio Therapist, and has been involved in Public Health for more than 15 years. The interview took place in a local coffee shop. The interview with Nurse2 started with a discussion of the basis of this research. Nurse2 responded that the employee wellness program (EWP) provided a forum for staff to focus on their health, but that she was not aware of a similar program for the public.

Nurse2 was of the opinion that there is some evidence of vitalistic systems, such as in Radio Therapies where there are information sessions by social workers, where patients are really looked after. She is of the opinion that the AIDS care is also looking at a more holistic approach.

She believes that it may help to provide some form of training to staff to have a different approach, and try to influence their negative or destructive attitudes that they have towards a patient (that may already be ill). According to her, this sort of training was conducted at their unit. Because (in Radio Therapy) they see their patients on a regular basis, they develop a relationship with them and it becomes easier to talk to them, and discover their problems. It does, however, become very difficult when they are busy.

"You avoid personal contact, because you don't have the time"

(Nurse2):12:59.

In the end, she believes that she has made a difference in people's lives through her approach, and remarked that some people came back after their treatment to thank her. They also put in extra effort to make the ward pleasant for patients. They regularly put in flowers, played videos for patients, and even painted the entire ward a different colour. *"It wasn't the normal 'dead' colour"*. She believes that the Public Health does not realise the effect that the stark beige and white colours of the hospital have on patients, and that they do it because it is cheap, and have always been done that way. She believes that people are automated, and do the same thing without change. *"If you want to change it, you are looking for trouble"*. She also thinks that all the pyjamas, etc., look the same in order to minimise theft.

Nurse2 believes that about half of the people in the PHS see it as a job, come to work only for the money, and do not care about patients. According to her, people do not want to get involved, as it may mean more work for them. Nurse2's motivation is to provide a service to others in need, to mean something to them, and to make life a little easier for those that are struggling. She ascribes this approach to her personality, training, and years of experience with cancer patients.

Nurse2 recalled the establishment of a centralised database to combat fraud, but that it failed because people were not forced or committed enough to use the system, and it introduced an additional workload.

"There is so much corruption, with everyone taking their cut of patient payments, whereas a system can control it" (Nurse2):20:38.

She believes that these systems can be implemented if someone takes a stand, and forces people to use it. According to her, people do the bare minimum to get by. She ascribes this attitude to poor leadership. When asked what factors make the difference between people that survive cancer and those that don't, Nurse2 replied with:

- People with a positive outlook.
- People with a healthy 'mind'!
- They get better quicker and respond better to treatment as well.
- People that eat healthily.
- People that get love, visitors, are looked after.

- If there are support structures.
- Food, exercise and vitamins have an effect

Nurse2 believes that giving patients a broader perspective on life, and identifying why they want to live, also helps them to recover quicker. She does, however, warn that telling people that do not have money to buy food, about the benefits of healthy eating is also counter-productive, as they only get more depressed on their return to the townships.

Nurse2 continued to describe a new private ward that was established in the hospital, which caters for private patients, or patients that have run out of medical aid. (See the article on Folateng (2006)). She believes that the attitude of the staff working there is much better towards the patients.

“Maybe they feel people pay for the service, and must get it... or maybe the people that go to the ‘private’ ward have a better self image or more authority“
(Nurse2):33: 48.

In conclusion, Nurse2 felt that people may not initially be attracted to the system by power, but that once they are in the system then they want to use their power to get ahead. There are also people that will put up with this regardless of how it affects them, because they just want to get their money.

The interview was concluded, and Nurse2 then introduced me to a colleague of hers (Admin2).

4.2.9 Administrator 2

Admin2 is a financial clerk at a regional Public Hospital. After the introductions, Admin2 continued the discussion on the Folateng initiative. According to Admin2, the initiative was started by a large medical scheme company in collaboration with the hospital. The scheme was going to provide all the services staff, with the hospital providing the premises, and the professional staff (doctors and nurses). These negotiations failed, and the facility was established by the Hospital. The medical scheme then proposed that the Hospital take over their renal dialysis patients which would mean an additional R21 million turnover per month. The government had to create the legal structures in which to allocate staff costs and budgets. These costs were initially more than what the facility generated in revenue.

The University of the Witwatersrand (WITS) dental facility was also looking at something similar, where they would take over the medical scheme's dental patients, in return for offering a 24-hour service.

"They reckon it would generate millions for the hospital" (Admin2):3:43.

This would provide students with a regular stream of patients, as well as reduce the waiting list. When asked what Admin2 thought the purpose of Public Health was, she responded by saying that it is not for the money, but also not for the patients.

"I don't think their mission is to keep the public healthy" (Admin2). 5:22.

She believes that it exists to provide basic services to the poor and disadvantaged. Admin2 does, however, say later in the interview that they have to provide health services, but that it has become more about providing a job for their partners in the struggle than it is about providing health services.

Admin2 continues that people's perception is that Doctors will provide them better service than Nurses, and they therefore do not want to go the Primary Healthcare Facilities, and would rather come to the hospital.

She also believes that current Nurses are not as competent as they used to be where nurses used to be able to put in stitches and fix fractures.

"They are not that qualified...they are slackers...they lack empathy and sympathy" (Admin2):8:12.

Admin2 feels strongly that Nursing is not a calling anymore, and that it has just become a job for most people in the PHS.

"We have been in the hospital where a patient has collapsed, and the nurses and porters all walk past ...even doctors" (Admin2). She continues by saying that some Doctors earn a salary in the hospital, but then spend most of the day in their private practices.

"The only Doctor that is at the hospital all day is at Folateng, and he gets paid private rates for the patients that he sees" (Admin2):8:45.

Admin2 is of the opinion that the productivity will improve by 100% if they contract out the hospital. The reason she believes this, is that it will be managed professionally by people that are not scared to supervise. She doesn't understand why Government does not look at commercial opportunities to motivate people and discourage theft.

“They are very short-sighted...they always have an excuse why things cant be done (in a different way)” (Admin2):11:45.

Staff also appear to protect each other, in that they will not report or testify against anybody regardless of the crime. It is also very difficult to convict or let go of staff. They seem to believe that *“an injury to one is an injury to all”* (Admin2).

Admin2 continues by providing some estimates of the costs of operating the hospital (in excess of R1, 2 million per day), and remarked that it is possible to provide a decent health service if it was not for all the fraudulent activity. Based on her estimates the hospital collected R72 million in fees in the previous year. According to her, if you pay doctors that are absent and you pay for drugs that are stolen, you cannot deliver a service, and the patient has to come back another day. She also believes that there is a high level of theft (by the staff and patients), the quality of drugs provided to the hospital is poor, and that there are a lot of inefficiencies due to mal- administration.

“A doctor has to request the same blood test or x-ray multiple times because it gets lost” (Admin2):23:08.

This may cost the hospital in excess of R15 000 per patient. Solutions to these challenges are improved management, partitioning of the hospital into smaller autonomous units, and better control over raw materials, infrastructure, medicines and equipment.

The interview was concluded with Admin2 referring me to another person at the hospital for further information.

4.2.10 Doctor 1

Doctor1 is trained as a medical doctor, but is practicing as a Chief Director in a provincial department of Public Health. He has also obtained an MBA, and a Masters degree in Philosophy (Ethics). For a period he was also the Superintendent of a large Provincial Hospital. Doctor1 has a secretary who sits in a separate office, and during the interview, she brought us tea/coffee. The interview started with Doctor1 explaining about the capturing of clinical information in a small hospital in Paris, and how they were struggling with it, and the unlikelihood of us getting it right in South Africa.

“Our problem is that we haven’t worked out a way of getting clinical data into the system” (Doctor1):2:30

The interview continued with a discussion on preventative healthcare (PHC), and the effect that genetics has on disease, and the mind on healing.

This is the whole concept of what they call primary health care (is) that if you can support communities at a nutritional and sociological level you will reduce all sorts of conditions that burden the system higher up” (Doctor1):6:09

The contributions of lifestyle diseases were also explored. These are illnesses resulting from smoking, high cholesterol, abuse of alcohol, drugs, poor diets, lack of exercise, etc. The impact of Discovery Health’s Vitality program was mentioned, and the fact that there are a number of factors of health that are within our control. According to Doctor1, it appears as if awareness of these factors should be made at school level (through the department of Education). The appearance of health programs on television was also mentioned as a contributing factor in improving people’s awareness of healthy living. Unfortunately, the innate human nature remains a stumbling block, for even if people know what the right thing is to do, they may still not do it¹⁶.

The effect that the Internet has had on providing health information for those people that have access appears to be positive, although Doctor1 feels that they are already probably healthier. The effect of this increased knowledge on the doctor/patient relationship was also explored. The ability for doctors to challenge the status quo was put down to improved training in philosophy, as well as critical thinking. For Doctor1, his critical thinking was developed at school, church and family.

“I suppose for me personally, I’ve probably always been the non-conformist type” (Doctor1):25:12.

The role of critical thinking, and change in the Public Health System was also discussed.

If you try and be independent in your thinking, you have everybody confused because they don’t know whose side you’re on (Doctor1):25::54.

The effect that this has on the Public Health System, however, is questionable.

¹⁶ Doctor1 referred to this as Ovid’s Dictum. Publius Ovidius Naso (Ovid) Epistulae ex Ponto III, 4, 79.) http://www.yuni.com/library/latin_8.html

“the trouble is that most state services are designed to maintain the status quo permanently forever and innovation and change is very difficult” (Doctor1):27:04.

The problem according to Doctor1 in managing the Public Health System is that it is so large, and that the administrators want to make regulations that are applicable to everyone at all levels.

“when there’s a problem people write and say there’s a problem, but because you can’t solve that because of the implications for everybody else, you say you do nothing...you try and run the whole 40,000 people in your organisation you can’t make rules that apply to everybody everywhere all the time” (Doctor1):27:20.

According to Doctor1, a way to solve these challenges would be to devolve responsibility, or possibly de-regulation.

So you can see, State management is very different. Again, it’s my approach to hospital management for example; they should be run as independent organisations...” (Doctor1):27:15.

The interview was concluded with thanking Doctor1 for making time available for the interview.

4.2.11 Nurse 3

Nurse3 is a Deputy Director for Health Promotion, a registered nurse, and has completed a mental health diploma. She has been in the public health service for more than 38 years. When preparing for the interview, Nurse3 was making jokes with her fellow office staff, and generally seemed to be having fun. Her office was not particularly neat, and she was using the health promotion posters as curtains to block out the sun.

The interview started with some questions about her background, qualifications, and the position that she holds in public health. We then explored the area of health promotion, particularly about how health promotion is helping to improve the health of the citizens. From her experience, administrators wanted posters, flyers and leaflets for health promotion, but when distributed at big events, the public seemed to throw them away.

“We don’t know that we do really affect the behaviour of people” (Nurse3) 1:29.

They appear to find it difficult to attract people's attention, and promote healthy living. They tried to produce a leaflet about enjoying the positive things of youth, and along the line it ended up being a negative message of *"you'll be a burden, you'll have socio-economic problems, and what about your Matric"* (Nurse3):3:02.

It appears as if the system is more comfortable sending out negative information.

"You lose influence if it passes through too many hands" (Nurse3):3:15.

The interview continued with discussing lifestyle and social issues such as smoking, drunk-driving, and ways of influencing people and of getting the message across. According to Nurse3, posters in public places do not seem to help. In clinics, there is a bigger likelihood of people paying attention to it when they are sick themselves. Furthermore, door-to-door visits are done, plays are produced¹⁷, and in response to the WHO "Move for Health" campaign, a local initiative was launched called Vuka (Move for health).

It appears as if community radio programs that have a radio sister are more effective. However, it does not reach many people. National radio would be a better option, but costs too much according to Nurse3. A more successful mechanism of promoting health, are projects with Non-Government Organisations (NGO) as they have the contacts and access to the latest information. They also appear to get more done.

Another aspect of Health Promotion that was discussed was voluntary HIV testing, and that it should probably be made compulsory at work especially for pregnant mothers/couples.

It appears as if the focus has changed from people caring for each other, to people caring for themselves, and their own interests.

"The new struggle is a struggle for wealth. - Money, position, hierarchy...there's always been people clinging to power" (Nurse3) 24:00

Also it seems as if people are not having fun at work anymore, and that people are not recognised for their contributions.

"A lot of fun has gone from peoples' lives in this new struggle" (Nurse3):36:04.

¹⁷ A play called Sarafina II about HIV/AIDS was investigated by the public prosecutor for fraud and corruption. See the response of the investigation at <http://www.doh.gov.za/docs/pr/1996/pr0605.html>

The focus on curative as opposed to preventative health was also broached, with doctors focusing on curing, and nurses following their orders. Also, the aspect of non-communicable diseases becoming chronic was raised as a big threat to the system.

“They are the worst for our system because they suck us dry. The worse the problems get, the more they need us...” (Nurse3):38:01..

With the shortage of Doctors, it appears as if more responsibilities are being passed to Nurses; however, Nurses are restricted in what they are allowed to do in the system. The other challenge is that the system is attracting nurses who do not care anymore. This is seen as a result of the system attracting the “wrong” type of person because of the free education, and income, as well as attracting people who have not had care in their own lives.

Suggestions for improving the quality of Nurses by improving the selection process and providing additional training in caring and preventative health were made. Some suggestions were explored for further research in improving and measuring the success of the selection of nurses.

The interview ended with the sharing of contact details.

4.2.12 Private Nurse

PNurse was interviewed at a local clinic that is attached to a pharmacy. PNurse has a Nursing diploma and a certificate in reproductive health. She has been in healthcare for 21 years and was attracted to the industry because she cares about others and always wanted to be a nurse.

PNurse believes that they are trying to change the disease care industry into a healthcare system by *“making people aware to be more responsible for their own health, because people aren’t” (PNurse):4:22.*

This they do through health awareness days, encouraging people to have regular cholesterol and blood checks, exercise, and a healthy lifestyle. The services they offer are all centred on screenings and advice for living a healthy lifestyle.

PNurse believes that half the people visiting them are healthy and want to stay healthy. The other half come for basic health services such as stitching of wounds, burns, screenings, flu, etc. They also seem to use this opportunity to make people more aware of what they can do to improve their health.

When asked about the PHS, PNurse responded that she had worked in family planning before, where they tried to educate people before they became pregnant or ill. According to her the hospitals and clinics are too busy with really sick people to be able to provide preventative services and there does not appear to be such a service in the public health.

When asked about the attention that they give to patients in their clinic, PNurse responded that it was their function to spend time with people and understand their problems.

You know people come to us and ask us questions because they feel their doctors don't have time, so they go to their doctor when they need an anti-biotic, but if they want to know information, they come to us" (PNurse):8:40.

PNurse believes that doctors don't spend the time with their patient to understand their problems, because they have to run their practices as a business.

If an intervention requires more than information or basic services, then they refer them elsewhere. They update their medical knowledge through books, monthly topical training and articles.

PNurse feels strongly that the PHS should become more involved in preventative care, both in the clinics and at school.

"The public health system has got to get in there and try and do lifestyle changes to the general population" (PNurse):10:11.

She believes that a large part of the population eats unhealthily, and that they need to be provided with the relevant information. She also believes that people do not have access to such information, and that in order to eat healthy means having access to fresh fruit and vegetables which for some mean planting their own gardens.

PNurse believes that the PHS is very busy with treating HIV, and that awareness is high, but that there are still a lot of demands for information.

"The public health system is a nightmare." (PNurse):15:05.

She is concerned that by the time people with HIV come to speak to them, they already have full-blown AIDS.

"You know a lot of information is available in high school, but a high rate of our population did not attend high school" (PNurse):22:15.

PNurse then explained the Vitality process of Discovery Health, and how you get allocated points for exercising, being healthy and having regular checkups. The

clinic does not make much money from the sales of pedometers or tests, but they do it because together with the Discovery Health program it encourages people to live healthy lives.

4.2.13 Patient 1

Patient1 and a friend knocked on my door one day collecting money for HIV/AIDS causes. Patient1 was diagnosed with HIV in 2001 when he went for examination after contracting TB. As a result of the diagnosis, the stigmatism attached to HIV/AIDS, and the way that it was revealed to him, he went into a severe psychological depression (according to him). He had a number of tattoos that were done previously, and did not know that one could get AIDS from needles (Patient1, 2:15). As far as he was concerned, there was a stigma attached to having HIV, and that you had to be gay to have contracted it. *The doctors told him that he was looking at a period of five years before he would be dead of AIDS (Patient1).* The result of all of this was that he felt excluded from society; had difficulty in dealing with the fact that he had AIDS; and as a result got sicker (fevers, loss of appetite, night sweats, and accompanying weight loss from 92kg to 54 kg) (Patient1, 2:30).

Patient1 tried to commit suicide by abusing pills, cutting his wrists, etc. He was transferred to a psychiatric ward; but one day he decided to abstain from drugs/alcohol abuse, and to turn his life around, and *“start focusing on myself as a human being and what my purpose is on this earth”* (Patient1: 3:25).

Patient1 (2:48) decided to motivate himself mentally and spiritually, and to focus on a higher power. He realised that in taking his own life, and thinking of the worst things that can happen to him; that it will happen. Conversely *“If you are to become someone that you can believe in, and that you can accomplish (great) things, then you will – no matter what”* (Patient1, 2:55).

The turning point for Patient1 came when he got sick, and went to hospital. There he saw so many people/friends dying from HIV in a short space of time. Patient1 decided that he did not want to die the same way, even though his body was vulnerable, and his immune system weak, and that it could take him months/years to recuperate (Patient1: 14:30). He realised that he loved and believed in himself and a higher power.

He never had anyone to love or care for him when he was younger (his father abused him, he was constantly rejected, and had a rough background). After living

with AIDS now for 10 years he believes that *"I'm not afraid of this disease"* anymore (Patient1: 3:14) despite still having physical symptoms and signs that scare him.

"I have overcome the battle that other people with AIDS have died from"
(Patient1, 3:35).

Patient1 believes that by taking every day as it comes, he becomes mentally stronger in his belief/faith. He believes that by loving himself, going out there, looking for love, eating well, not using drugs or abusing alcohol, and by practicing safe sex he can remain healthy.

Patient1 described his father getting ill from cancer and then convinced himself that he could not do anything anymore, and eventually became so helpless and sick that he died of the disease. He believes that people become ill because of the way they perceive themselves.

"HIV is not a death sentence. It is the way that you perceive yourself, life and others." It depends on what you believe. Believe in yourself" (Patient1):13:52.

Patient1 has found his purpose in helping others, and making an impact on young people's lives. He believes that adults are responsible for their own health, but that they can be influenced.

"(An adult) has got his own decisions and have to face their own consequences." (Patient1):15:00.

He formed a support group in 2001, and spends his time working with people living with HIV/AIDS.

According to Patient1, he is dependent on the government for ARV and treatment. He also believes that the messages that the government are sending about HIV/AIDS are scary, and that there is no caring for HIV infected individuals. As a result people do not want to know their status.

He also says that getting proper treatment is very difficult as doctors can only follow guidelines, rules and regulations. He wishes that the minister would actually visit clinics and see the patients' needs. The government seems to want to boost its statistics on HIV cases, as it will give them an opportunity to accumulate more money (Patient1). The government is also spending vast amounts of money on AIDS awareness. What is rather needed is more support for the people that have the disease. There is a lot of care for children, but after a child matriculates, there is no more care from the government. According to Patient1, government has promised

the establishment of care centres, but he guesses it will still take a long time if compared with the rollout of ART which are still only available in certain places.

Patient1 also believes that there is a bigger problem in rural areas where people are struggling to get access to water, sanitation, and fresh fruit and vegetables. As far as Patient1 is concerned, a healthy diet is essential to keep one's immune system going, and that by eating healthily, drinking lots of water and staying away from red meat has made him stronger and less dependent on government medication.

The resources of the earth provide enough for my body to have an excellent immune system (Patient1) (24:00.

To improve the system, Patient1 believes that we should focus on the community, construct care centres, start support groups, hand out food parcels, and provide people with the appropriate drugs.

Patient1's idea is to establish HIV care centres with the help of industry and community, and to have volunteers involved in supporting it. According to Patient1, involving the government early-on will kill the idea as they will use it for other purposes.

"As soon as government gets involved, corruption steps in (Patient1).

Patient1 believes that he is driven to what he does by his love for communicating and associating with other people. He says that before he had HIV/AIDS he did not care about others.

"Because something happened to me I now have the opportunity to love others today" (Patient1):23:00.

Patient1 also feels that people care and have compassion for others and support their teddy bear program.

"Without the love and compassion that we have for one another, society is going to die/we are going to die" (Patient1):25:00.

After discussing some final ideas about the care centre, Patient1 thanked me and left.

4.2.14 Doctor 2

The interview started with a question on the division, role and education of Doctor2. Doctor2 is a Director of ICT, and has a MB ChB, M.Med in Community Health, Diploma in Datametrics, MBA, and a Postgraduate diploma in Health

Management. He has been in public health for more than 24 years. The interview continued with a discussion about preventative health care, and improving people's health.

A better example is things that happen in hospitals are always too late, but things that happen in communities they were really valuable (Doctor2):05:00.

We also explored the differences in the public health system between provincial and district health, as well as between provinces.

When the subject of training in preventative medicine was broached, Doctor2 responded as follows.

"It was always seen as a bit of a joke among the medical students (Doctor2) 11:20.

The name of "Preventative Health" was changed over time from preventative medicine and health promotion to "Community Health" and "Public Health". Doctors are treating symptoms, illnesses and prescribing medicines rather than keeping people healthy.

"Standing at the bottom of the cliff waiting" (Doctor2):7:10.

A discussion and explanation followed on the concepts of psycho-somatic illnesses and psycho-neuro immunology.

"You do have some pockets of doctors that think differently and have different methods that they use, models that they use" (Doctor2):19:50.

The discussion continued by looking at how individual styles are practised and allowed in the Public Health System, and what recognition doctors get.

"I mean we had one in XXXX (name of a town) and he has a different approach but how does he influence the rest of the health department from his level" and "There are doctors that are different but government handles them differently" (Doctor2):18:12.

It also seems as if doctors in the Public Health System are not getting the same recognition as in private health care.

"But doctors that are not that important within or they are not seen or given the kind of recognition in public health care that they have in the private health care" (Doctor2):20:21.

We also discussed ways of influencing the Health System to adopt a more holistic approach, with a focus on health and wellness, and not only disease care.

The key focus appears to raise awareness in hospitals and communities on how to prevent illnesses and assist patients and their families once it has occurred.

“I’m not sure that you can just have your doctors, how do you change their approach if you don’t have a change of attitude also throughout your managers (Doctor2):24:53

Following on from this, Dcotor2 explored the skills and training requirement for management, and at what levels managers are appointed.

“The people that are managing them, especially at the more senior level, are being appointed because of who they know and what political links they have and not because of their training” (Doctor2).26:00

We then talked about the good ideas for managing and improving the health services that were developed prior to 1994, and how a lot of these decisions were overturned as a result of political allegiances or factions in the party. We also looked at the effort that was put in since then to bring about changes in the Health System, and the futility of some of these efforts.

He worked also on a different scheme in trying to get this public/private kind of thing going, also looking at the hospital wards, looking at capitation kind of systems but in the end he just gave up (Doctor2) 40:55.

The discussion continued by looking at the shifting of funds from hospitals to Primary Health Care, and the effects this may have.

“I don’t think Government at a high level understands primary health care in that way and it’s about ownership and your own responsibility, it’s more like the old mother Russia” (Doctor2):46:48

Taking responsibility for one’s own health and educating children at school on the benefits and ways of staying healthy also becomes important.

“It’s a paradigm shift as you said and it includes starting at a young age” (Doctor2):48:12.

The interview concluded with what attracted Doctor2 to the Health System, and why he was doing what he was doing.

4.2.15 Private Administrator

PAdmin established a safe house for people affected by HIV/AIDS in 1989. She has no medical background or training, and first became aware of the disease when her mother was in hospital and people were walking around in “space suits”.

After finding out what it was, she felt that she wanted to do something about it. The opportunity arrived when an acquaintance mentioned that she was asked to do HIV/AIDS awareness with the church, and that she did not want to it; offering the opportunity to PAdmin.

PAdmin provides information on HIV/AIDS, conducts information workshops (on safer sex and how the body works), counsels patients, and provides a holistic approach (including pulsing, reflexology, aromatherapy, etc.) to assist people in dealing with HIV/AIDS.

"I took people to my home because they were left to die anywhere, but not in their homes...they couldn't tell their parents" (PAdmin):06:12.

PAdmin is certain that the secrecy and stigma surrounding HIV/AIDS is detrimental to its treatment, and wanted to change people's perceptions, and treat HIV/AIDS on the same level as other diseases such as cancer, heart diseases, etc.

Despite the numerous workshops and sessions with individuals, PAdmin doubts whether she has made any difference. Based on the figures that she quotes from the DoH, the number of infections recorded at ante-natal clinics in SA has increased from 50 per day when she started, to over 2000 per day in 2006.

PAdmin believes in an individual approach, where the needs of the patient are catered for

"What might work for me might not work for you" (PAdmin):08:21.

They do not force anything on anybody, but work on changing people's way of thinking, and teaching them how to manage life's stressors.

"When someone has a crisis they know they can come and talk to someone who listens to them" (PAdmin):10:12.

PAdmin's approach focuses on explaining concepts in a simple understandable way, and focuses on how people's bodies work, how to look after them, and that people are different¹⁸.

"I make it interesting, I make them participate, I ask questions, If someone looks like they are sleeping I attack them" (PAdmin):14:10.

PAdmin criticised the approach of the Minister of Health for making colour posters about HIV/AIDS and propagating that planting and eating vegetables is good

¹⁸ At this point PAdmin invited me to attend one of her workshops. She also explained how Macrophages work when encountering HIV virus.

for one. These posters were put up in prisons, clinics and other public health facilities. The result was that it achieved exactly the opposite effect.

"Everybody that had a "garden now pulls it up...if you have one carrot in your garden the neighbours now think... you have HIV/AIDS" (PAdmin)15:04.

One good thing that she said the minister advocated was that doctors go every year to keep their knowledge current, unfortunately nothing came of this initiative. PAdmin believes that the track record of the PHS in utilising HIV funding has effectively resulted in reduced funding from international agencies, and that interventions are now at a more local level (such as the ARC program that gives AZT's to local clinics).

PAdmin is emphatic that people are responsible for their own health, and that people should not be treated like children, including being reminded to take their medicines, etc.

"They are bloody adults... we treat them like babies" (PAdmin) 64:31.

She also believes that some people do not listen to messages about HIV/AIDS until it is too late for them or people near them. PAdmin is extremely concerned that there are HIV + patients that have no visible signs or symptoms of the disease, and that the virus is developing a resistance to the drugs.

"That is very scary. I have no idea of a solution. I just hope (that) the children that have lost their parents will wake up and smell the roses" (PAdmin):12:21.

She is hoping that children will become more responsible, and want to be different, unique, and stay alive.

*"It is your responsibility when you have children to talk to your children"¹⁹
(PAdmin) 14:38.*

PAdmin is of the opinion that the Minister of Health is not interested in ways of treating HIV/AIDS patients. This was shown at a chance encounter at an international conference, and the fact that the minister did not attend the HIV/AIDS workshops that she conducted at parliament.²⁰ When the ministers do come and visit her house, they want to come at night, or drive around the back.

¹⁹ At this point she gave me a booklet about titled "Talking to your Children"

²⁰ She introduced me to Gary, a patient of hers who was so sick when they picked him up, that he was fatigued just by the trip in the car. He now is a provincial dressage champion, and living healthily with HIV/AIDS.

"We went to parliament for 5 1/2 weeks to educate everybody... except the ones at the top. I don't know why they don't come" (PAdmin)16:10.

She also explained that the reason why they had no sign outside the house was that people would possibly not come to the house.

I then broached the subject of PNI, and PAdmin1 proceeded to explain in a simplistic way the basic premise. PAdmin says that the culprit is in fact stress, and that it blocks the flow of energy in the body, and reduces the ability of the body to heal itself.

"We all live with cancer, TB etc. We have 28 really bad bugs that we are the natural hosts to, and it is when our energy is low that they infect us." (PAdmin):17:03.

PAdmin stated that we know how to heal ourselves.

"We all do know the answers, but we don't bother to listen to ourselves" (PAdmin)18:11.

According to PAdmin, this is what human knowledge is all about. She believes that it is our parents, education, and religion that tune us out to listening to ourselves.

"We've always been discouraged to talk about our feelings" (PAdmin):19:34.

PAdmin also stressed that they try and help people getting in touch with this awareness.

"So we try and tune people in...by telling them how in a simple way" (PAdmin):21:04.

She finally stated that PNI is about living in the moment, and that we cannot change the past, or the future. It is also important to trust yourself, not change your mind based on others, and to not doubt your convictions.

PAdmin continued the interview about how she got involved in establishing the HIV/AIDS centre, and working with the Catholic Church, notwithstanding that she is not religious. She also explained how she got the bishop involved in visiting a terminally ill patient, and how his understanding/awareness was fostered.

PAdmin then explained the process of tuning into yourself, and how the different feelings and energy points related to different illnesses. She also explained why she grew up differently, as well as her approach with her children and grandchildren.

"Don't block people out. 'Cause what I can see you can't see" (PAdmin)18:23.

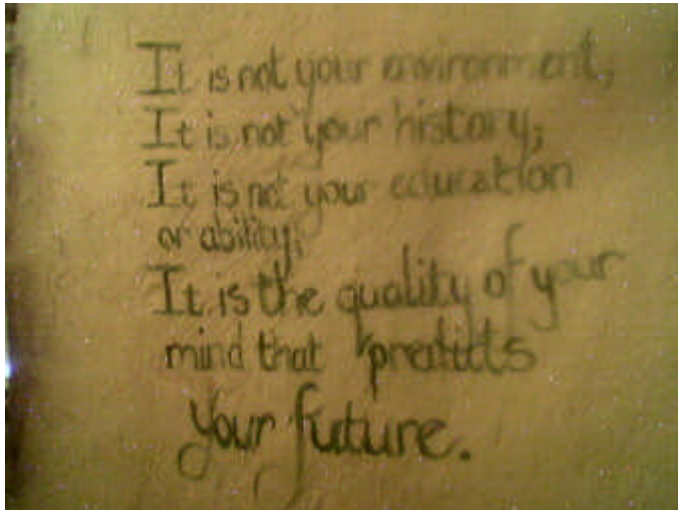


Figure 8 Handwritten sign in PAdmin clinic quoting Mays (1971)

PAdmin explained that some people come to her house to die, and others to live. Whatever choice they make, she assists them to understand their choices. According to her, people that do not express their fears and thoughts, tend to die quickly. She mentioned a patient that died that day due to kidney/liver failure, and stressed the importance of regular checks on these organs if one is using any type of medicine that can be taken up by them. She believes that many doctors are not aware of this.

"Private Doctors still think today that AIDS is not in their practices"
(PAdmin):51:41.

She also does not believe in doctors in general, feeling that they are just interested to see how much money they can make from you, and that few doctors really know how to deal with HIV/AIDS.

"Your body heals itself most times" (PAdmin):58:12.

PAdmin then explained an incident where she hurt herself, and was taken up in hospital for internal injuries and fractures, and refused to move when the doctors told her to.

She then proceeded to explain how clever the HIV virus is, and how it changes its genetic mechanism to suit the host. She also said that if people stop taking their medicines, the virus learns the code, and becomes resistant to the medicines. PAdmin is adamant that we need to educate our families, but that she has given up on educating the world.

The interview ended with PAdmin taking me for a tour of the facility.

4.2.16 IS Administrator 4

The interview with ISAdmin4 was conducted telephonically. ISAdmin4 is an e-Health specialist acting in an advisory capacity. The interview started with a question on her role and how she was involved in e-health.

"I'm investigating what government is doing as far as applying ICT in health... and pick up on challenges and advise on how to deal with those challenges."
(ISAdmin4) :3:10.

The areas that ISAdmin4 is involved in are health information, broadcasting, TV and radio and the Internet. Plans were made to meet in person, but it appeared as if her schedule was quite busy with researching and developing an Information and Society Development (ISAD) plan.

"We are not actually writing reports...what we are writing is the recommendations to the President" (ISAdmin4):4:56.

When asked about the impact of ICT on citizens, ISAdmin4 responded that no research was done on assessing the impact of ICT, and that it is not well documented. When asked what level of ICT in health she was involved in, she responded that she is involved in all areas. Arrangements were made for a later visit, and the interview concluded.

4.2.17 CIO1

CIO1 was met at a conference on HIS, and was asked some questions about the impact of IS in the Dept. of Health. An initial aspect that was explored was how to determine whether IS is making a difference.

"There are lots of efficiency indicators...not impact...very difficult to say it's making an Impact" (CIO1) 11:40

We also discussed the current focus on HIS, and the role of the Department, and Academic institutions.

"When we started there was like no one... When we needed the researchers (academics) no one was interested...Now that we reached the crest of the climb, suddenly we've become the research agenda" (CIO1):4:10.

We also talked about the impact that improved information has on the Public Health System.

"We're on the ground getting death registrations from 50% to 90%. Then you get all the academic models claiming 400 000 Aids deaths by 2005... Then we

get to 2005 and we find there is not that many AIDS deaths, there are quite a few (not even a ¼)” (CIO1):20:30.

The conversation was concluded with an introduction to some colleagues of CIO1.

4.2.18 Patient 2

Patient2 is a domestic worker in my employ. I became interested in her plight with the PHS when she asked for a day off to go to the clinic. She agreed to an interview, and it was conducted at my home.

The interview started with questions on her attendance at the clinics. Patient2 has been attending Public Health Clinics for about 9 years, and also goes to Tygerberg hospital, after being referred by her private doctor. She goes to the clinic about twice a month, and says that she goes there as she does not have money to go to the doctor.

Patient2 explained the process of visiting the clinics, and that they have to be at the clinic at 04h00 or 05h00 in the morning. They need to stand outside regardless of whether it is cold or raining. The last time she went, she only saw the doctor at 14h00, and eventually left the clinic at 16h00. She explained that people feign illness, and that others skip the queue because they pay the nurses to keep them a place in the queue, or they get someone else to stand in the queue for them.

“Sometimes I go to the clinic (and) there is no doctor...we must wait...that doctor is at his own clinic (Private practice)” Patient2:10:05.

While waiting in the queue there are people that tell them about AIDS, and give them a paper, and a packet of condoms. She also said that someone died while waiting for the doctor. The doctor only arrived at 11h00. Sometimes the doctor does not help people because he goes to his private surgery.

She also says that one can't ask the nurses for anything, because they shout at them. They also turn their badges around, so that one cannot read their names.

When exploring the concept of free health services, Patient2 stated that she does not know why the Government is providing free health services, but that she had received an invoice from Tygerberg.

Patient2 believes that it is the doctor's responsibility to make her better, but hers to take the pills. She does not believe in traditional healers or sangomas, as the

last time she was there, they cut a baby's ears and private parts off to make a potion or "muti", killing the baby in the process.

She does not like the way that the doctor treats her at the clinic, because he just gives her pills without examining her.

Patient2 says that it is worse at Tygerberg hospital because the doctors are learning there, and that they consult with each other. She says that they know the services are free at the clinic, that's why they treat them this way (just giving them a Panado). Patient2 wanted to go directly to Groote Schuur (another academic hospital) as she believes it is better, but says she needs a letter from the clinic, otherwise she gets sent back. The clinic, however, does not want to give her a letter (referral). When going to Groote Schuur, she can see that the nurses are busy, helping people, etc.

There used to be a small container as a clinic where Patient2 goes, but they are building a new clinic.

Patient2 relates an incident at Tygerberg where the doctors put things in her mouth that was painful, and she was hurting badly. They ended up arranging a taxi for her to go home, even though she was feeling very ill.

"I was thinking maybe they don't have a care...because they don't worry about me" (Patient2):20:12.

Patient2 feels that if the doctor examines her, she feels better. If the doctor just writes (on his pad), and gives her tablets, then it is not so good. Patient2 then goes again to see the doctor, but the doctor then says that she must go to the private surgery.

According to Patient2, the time that the doctor spends with you depends on the length of the queue. If the queue is long, then he sees you for five minutes only. She believes the shortage of doctors is the fault of the government, and that there are too many sick people for the one doctor.

When asked how Patient2 would improve the situation, she responded that she would go to a private doctor or make herself better.

"Because a private doctor checks me nicely...takes his time and looks me" (Patient2):22:25.

According to Patient2, other people in the queue believe that the doctor is fine, and that the doctor helps them with letters to get social grants or pensions. But now nurses are also signing like a doctor, and charging R100 for a letter. Patient2

believes that one should visit the clinic to see what the nurses are doing, and the fact that they are not concerned about the patients, and never help them.

Patient2 was asked about her visits to the private clinic (chemist) (See interview with PNurse). She feels that the nurses at the chemist are nice and that they are normally careful when giving her injections for her high blood pressure and regularly asks her for feedback. The interview was concluded by thanking Patient2.

4.2.19 Private Patient

PPatient is a work colleague and we met at the coffee shop at a private hospital (see section on appearances for a picture of the cafeteria). The interview with Private Patient started with a discussion about the perception that people may form of clinical facilities in a hospital based on the appearance of the reception areas, toilets, etc. He described the appearance of a hospital in Cape Town, where the plush finish and appearance gave him such a good feeling.

"This extends to the quality of the surgery: "Top class! You get this whole good feeling" (PPatient):01:20.

He added that people that go for elective surgery have a choice to which hospital they go, and that surgeons (doctors) often provide services at more than one hospital, and can therefore provide patients a choice.

"You're going to go to the one you feel more comfortable and had a good experience" (PPatient):02:36

The difference compared to public health is that patients have a choice of where to go. Public Health patients have limited or no choice. PPatient came to the conclusion that private hospitals will only expend money on the external appearances once they have taken care of the clinical aspects of the hospital. Therefore the appearances of the facilities will have a direct relation to the quality of the clinical facilities.

"At a hospital... the perception that the client gets the most subtle message that he is given will be magnified" (PPatient):2:20.

He explained his experience at a top trauma medical facility when his child was injured and stated that he was prepared to pay for such care. The interview continued with a comparison to the Public Health System in the UK.

"I had the perception that in a first world... even in the state clinics I'd be getting something better than here, and it was not the case... it was exactly the same as in SA." (PPatient):1:00.

He continued to describe the PHS in the UK, where patients are provided with health cover, and go to a national health clinic in their areas. The health clinic that PPatient visited was very old and run-down, and one has to wait for up to an hour to see a doctor.

"you wait for about an hour to be seen and then you get shifted into this room with an overworked doctor who's been working for 12 hours, no personal touch...." (PPatient):8:10.

PPatient believes that the reason that the system provides such poor service, is because it is a subsidised service, and that patients are free to go to private clinics, if they are prepared to pay for such services.

University of Cape Town

4.3 The Public Health System Body²¹

Following is a high level overview of the information collected during this research, arranged according to an organisational body as defined in Paragraph 3.3.2 *The Body of an Organisation*.

4.3.1 Bone Structure

The bone structure is comprised of people, organisational structure, and relationships and objectives (Moreau, 2005).

At the time of the research, the health system in South Africa was operating as a 3-tier system namely National, Provincial, and Local Government. In addition, the Health system is partitioned into a number of “Health Districts”. This is as a result of a process to decentralise the health system based on the WHO District Health System model as encapsulated in the SAHR (1999). Following is an illustrative outline of the different levels as currently found in the health system.

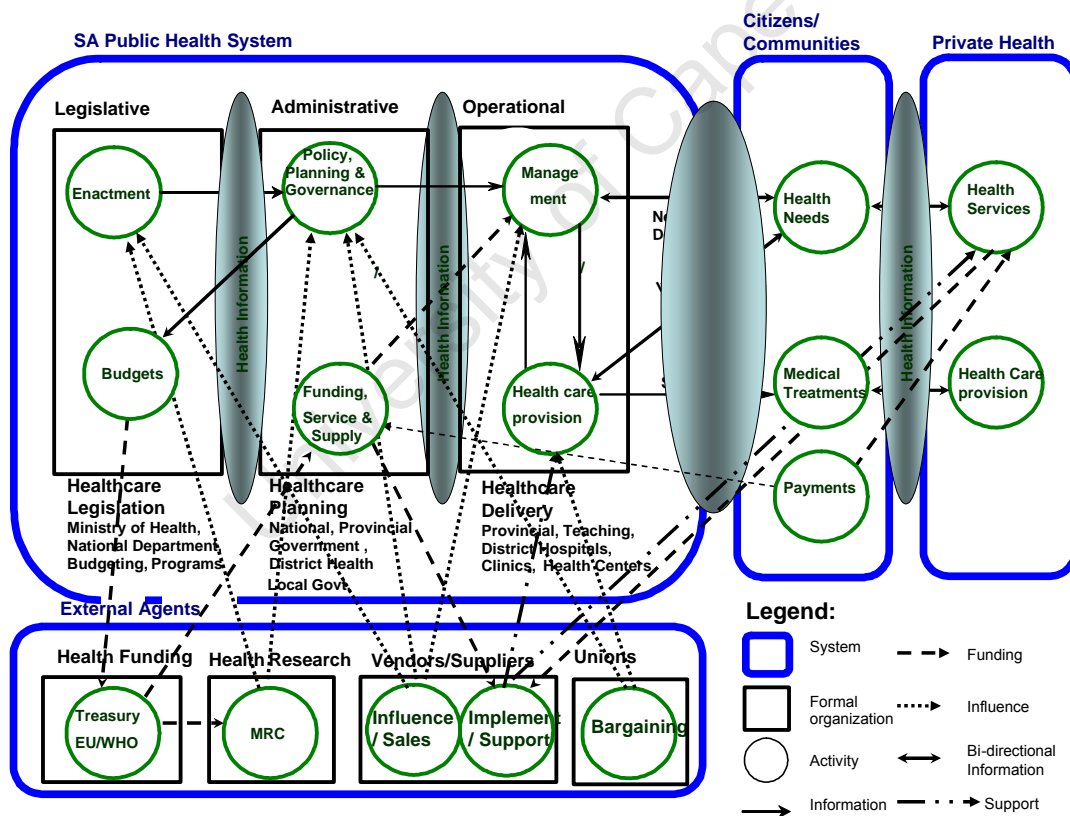


Figure 9 Model of SA Public Health System based on Korpela et. al. (2004).

²¹ Note: This section is merely provided as a high level perspective of the health system by the author in order to serve as a basis for further analysis. It should in no way be considered as a comprehensive review of the Health system, and there may be more detailed studies available elsewhere such as Mathews (2003).

For this model, the systems referred to are the Public Health System, Private Health System, Citizens/Communities, and External Agents.

4.3.1.1 Public Health System

From a Public Health Systems perspective, three levels have been identified, namely, Legislative, Administrative, and Operational.

i. Legislative

Health Legislation is enacted in parliament, and drafted/executed by a number of agencies. Some of these are the Ministry of Health, National Department of Health, and Health departments in conjunction with advisory bodies such as the MRC, Department of Public Service, and workers unions such as the National Education Health & Allied Workers Union (NEHAWU).

ii. Administrative

The National Department of Health, Provincial Department of Health, Local Municipalities Health Department, and District Health Departments perform the administrative function. These functions can be seen as budgetary, support, policy development, and planning.

It should also be noted that these functions are geographically distributed, i.e.:

National → Head office in Tshwane.

Provincial → Offices in every Province. Falls under the Social Services Cluster, and accounts to the Office of the Premier in that province.

Local Government → Mainly in Districts or Municipalities and accounts to either District/Local Government and/or Provincial Department of Health.

“The National Head...are really giving us the guidance where to go to and what they want. From Provincial section we need to implement the policies ... and to drive those areas that have been identified as most important for the Country. Also part of our work is to liaise with Local Government and see how we can assist them or how we can monitor them to also find the same goals. The Local Health Services should just be moved over in most of this Province to Provincial Services except for the Metropolitan which is the City Bowl and most of the City as they are looking after their own services. The rest are all moved over to the Health Services” (ISAdmin2):14:03.

iii. Operational

Hospitals, Clinics, and Municipal Health Services in the various Districts perform the operational functions of the Health System. The hospitals and clinics are ranked by Admin1 (2006:6.00-12.00) according to expenditure/size/footprint ,i.e.:

Level 1: District Hospitals and Clinics – Admits patients for basic treatments and typically staffed by nurses and managed by a Sister or a Doctor (Statement., 2005). Advanced and emergency cases are referred to a regional hospital.

Level 2: Regional Hospitals, e.g., Paarl, Somerset West, Karl Bremer, etc. generally managed by a graduate in public/hospital administration. These hospitals could have an emergency section, but cannot treat patients with advanced illnesses such as cancer, heart disease, etc. They are staffed by higher qualified people than a Level 1 Hospital.

Level 3: Provincial, Tertiary/Academic Hospitals, e.g., Tygerberg, Groote Schuur, etc., managed by specialists or academics. Treatment can only be obtained by referral from a district hospital. These hospitals have specialist centres for cancer, HIV/AIDS, heart disease, etc. They have a higher expenditure than a Level 2 Hospital.

Municipal Health: Community Health Centres, mobile units, satellite clinics etc. This level is responsible for water and sanitation, environmental health, health promotion and education, prevention of infectious or communicable disease, etc. (Pillay et al., 2001);

Other: Military Health Facilities, Correctional Services Health Facilities, Provincially aided hospitals, specialised hospitals (TB, Psychiatric, Dental, Obstetric, and Reproductive).

According to the Healthcare 2010 Service Plan the levels of care are classified as:

Level 1: Care is delivered by general practitioners, medical officers or primary health care nurses in the absence of any specialist other than a family medicine specialist. Primary health care clinics, community health centres and district hospitals function at this level.

Level 2: Care that requires the expertise of specialist-led teams which includes general surgery, orthopaedics, general medicine, paediatrics, obstetrics and gynaecology, psychiatry, emergency medicine, radiology and anaesthetics.

Level 3: Care that requires the expertise of a specialist working in a registered sub-speciality.

Level 4: Care is provided by sub-specialities and includes services which are very new, require scarce expertise, require highly expensive technology, and are found in only one or two centres in the country. For planning purposes levels 3 and 4 are combined.

The gap between the current number of beds per level of care and the targets is mainly due to the definitions of levels of care. It is accepted that a significant proportion (40-45%) of the services currently provided in the regional hospitals can be classified as a level one service. Similarly, a significant proportion of the services rendered in the central hospitals can be classified as level two services.

4.3.1.2 Private Health System

Although not a focus of this research, the private health system is also an important aspect of the South African health system, and provides services directly to citizens. Funding may be directly from citizens, or through medical aid, or in some cases subsidised by the Provincial Department of Health.

“Our role in the private sector is very limited. Our Provincial Administration or Government has the responsibility to see that the care is being done according to (a) certain standard but other than that we don’t have a role to play.” (ISAdmin2):16:21.

4.3.1.3 Citizens/Communities/Healthcare Recipients

Citizens/Communities are the recipients of the Public Health System, and it is estimated that approximately 80% of healthcare recipients in South Africa are dependant on the Public Health System (IGFR06).

4.3.1.4 External Agents

A number of external agents/agencies influence or have an effect on the Public Health System.

- i. National/Provincial Treasury: An important function in the Health System is the Treasury component, as it is responsible for the provisioning of fiscal resources to the various health organs. Through the Public Finance Management Act (PFMA), executive authority is delegated to the Head of Department (HOD). This means that Provincial Departments budget for Provincial Hospitals, and District/Local Municipalities budget for District, Local Clinics. This in itself creates ambiguity in service delivery, and may be worth investigating further.
- ii. Funders: Other funding agencies are external agencies such as the EU/USAID, WHO and others.
- iii. Research Institutions: Another important agency is the Medical Research Council. Although it operates autonomously, it is provided seed funding, and is accountable to the National Department of Health.
- iv. Vendors/Suppliers: Vendors of health services such as medicines, equipment, information systems, etc., also form part of the external agents of the Health System.
- v. Unions: An important influencer of labour relations and policy is the workers unions in South Africa of which NEHAWU is one of the largest.

4.3.2 The Vital Organs

The Vital Organs are made up of the way the organisation is managed (authority), the core services (transformation of production), and the legitimacy (rules, and regulations) (Fox, 1975). In order to analyse the vital organs, the Vitalistic framework that was developed during the literature survey will be used.

Impact	Public Health System	Analysis
Information	Statistics on revenue, hospital utilisation, number of patients, waiting times, types of diseases and illnesses, complaints,	A predominant focus on input criteria. This leads to undue focus on control criteria which ends up sapping the system.
Technology	The adoption of technology varies from computers used for capturing data, to medical technologies.	Limited use of computers for providing information and communication. Leads to convoluted processes of managing manual records that puts an undue drain on the organisation, its resources and its recipients.
Objectives and Values	Curative system, focussing on HIV/AIDS, TB and Malaria care. Struggling to perform PHC.	Reactive system, waiting for patients to present themselves. This leads to significant swings in demand.

The table is to be continued on the next page.

Impact	Public Health System	Analysis
Processes		
Focus	Admissions, billing, discharges. Driven by political needs.	Focus on aspects which may get them into trouble if it is not performed. This focus largely ignores the needs of the patient.
Participation	Limited participation from customers (Patients)	Make decisions on behalf of their customers. Results in mis-aligned service delivery, and increased frustration to all concerned.
Involvement	Patient is an object of the process.	Limited involvement, because they see limited value.
Design	Design based on historical ways of doing things.	Limited analysis or understanding of the problem. Results in first-order problem solving, while largely ignoring the bigger picture of health care.
Development	Limited development.	No or limited changes in order not to disturb the status-quo. Any vitalistic changes are quickly suppressed.
Staffing and Skills	Number of vacancies, short-staffed, limited responses, compulsory service for graduates, appointments based on power and influence	The system makes it difficult to employ people, but once employed it is difficult to develop skills or leave.
Management Systems and Structures	Hierarchical management. Numerous levels and structures. Reporting lines, Policies and Procedures, Annual plans and strategies	Autocratic Parental style structures with strict reporting lines. Limited ability for feedback or criticism.
Resources (time & money)	Annual budgets, income and under-spending returned to Treasury, budgets decided at mainly National and Provincial levels, insufficient funding to provide required number of people,	Planning and expenditure not synchronised. Despite limited funding for staff, normally under spend on budget and have to return it.
Society	Involvement only when present in the system, minimal media presence.	Limited impact on society.

Table 10 Analysis of Health System based on the Heeks (2002) framework.

Based on this preliminary analysis of the system using the Heeks (2002) dimensions, it appears as if the system is primarily focused on internal aspects that are required to sustain the system. As identified earlier, a focus such as this leads to a sapping system, where the energy of the system is expended primarily in supporting the internal political objectives, and not necessarily impacting positively on the organisation or society. Limited vitalistic evidence was found on the focus, involvement or impact on their clients (society or patients).

It appears as if the system does not want to increase its capability in order to provide improved services, as it would mean fewer resources to share for those that are currently in the system.

4.4 The Public Health System Mind

The mind of the organisation looks at the personality of the organisation, expressed in the way that they perform their functions or work.

Work is the most common mechanism of structuring time for people (Berne, 1964). Steiner (1974) theorises that two or more persons can also structure their time together with rituals, pastimes, games, withdrawal, and intimacy.

These “pastimes” may take up more time than the actual work, and work may become a secondary aim for such people. The following section examines some of these pastimes as observed while consulting to public health and conducting this research²².

4.4.1 Sweatshirts

4.4.1.1 Label Me

In the strictest definition of pastimes, Label Me is not actually a pastime. It can probably rather be defined as a sweatshirt (Stewart and Joines, 1987) It is important to acknowledge the existence of these “Labels” as they form the basis of some other pastimes such as Status Rivalry, or games such as Pass the Buck.

Background

Label Me is essentially a pastime in the social PHS that identifies a specific role or function. This by itself is not unusual; the twist is that the label has a dual meaning. On the front is the social message for the world to see, e.g., AIDS Promotion, or Information Technology. On the back is the psychological message such as “Status Rivalry” or “Let’s Meet”. In the Public Health System, Labels are very closely linked to Status Rivalry. It was first noticed as a discontinuity between the name of the function, and what they did.

From initial impressions, it appears as if labels work as follows: A specific cause or program is identified at a senior level in the Health System (e.g., President, Minister, or MEC). This specific program then becomes entrenched as a specific Label, linked to the original cause, e.g., “Food Parcels”, or “AIDS Promotion”, or MDRTB (Multi Drug Resistant TB). This label then becomes important enough to

²² This representation is by no means exhaustive. As an “outsider” it is not possible to understand or necessarily observe all the pastimes and games that are played, nor the subtleties and nuances developed by people over years of playing them.

allocate a budget or funding to it, and if it is very visible, it may even justify a directorate, or a specific group of people to support it.

Socially this may appear to be quite normal, but it is important to try to understand the psychological aspect of Label Me. For example “AIDS Promotion” becomes a label for a specific function or program. On a rational level one may question why one needs to “Promote AIDS”.

“Why do we need more AIDS Awareness when there is so much more being done? Everyone knows what HIV is and how we get it” (Patient1):17:21.

The Label essentially becomes the reason for existence of that program, but the purpose, and what they do may be completely different. There are even differences between what a label in one province or level of the system and another does, e.g.

Well even in this department there’s a section of health promotion,... and that section goes to community radio stations, goes to schools, sets up forums, publishes leaflets, pamphlets, brochures, posters that sort of thing. So there is an effort to get public awareness of health issues.” (Doctor1, 2006:11.47)

In a different province the following was found:

“Here they didn’t have a Health Promotion Unit as such. There is a small area that is linked actually to HIV/AIDS, so I think that if that’s the case you can see the kind of differences between these two Provinces.” (Doctor1:1.50).

and *“We don’t do HIV/AIDS work in our Health Promotion. HIV/AIDS have their own section. They are the big prevention of HIV/AIDS program... We are health promotion for most other things” (Nurse3:0.08).*

and *“So I was very surprised when I came here and saw that it (Health Promotion) was only focused on HIV/AIDS and the environmental health workers worked on the infectious diseases like cholera and malaria that is also common here and also TB” (Doctor1:2.01).*

A variation on “Label Me”, is “Flavour of the Month”, where certain people, functions, or terms become “politically” important for a while (See Paragraph 4.4.4.3).

Transactional Analysis

As can be seen in the above examples, the labels are fitted depending on the perceived importance or status of a specific programme, and the underlying psychological need of that unit for recognition, or prestige.

On a high level, the term Health can also be seen as a label. One can see it as a coin, with the label “Health” on the one side, and the flipside its underlying meaning, namely, Disease. The label Health therefore implies Disease. Promotion becomes avoidance or prevention. Therefore Health Promotion becomes disease avoidance or prevention, e.g., distribution of condoms, or preventing pregnancies, etc.

When one talks about funding “AIDS Promotion”, it means funding the unit, and not actually doing AIDS Promotion. When reference is made to the “Food Parcel Programme”, what is referred to is the unit, not the process of handing out food parcels.

These Labels become persistent over the career of a person, and constant reference is made to where (which label) a person came from. Furthermore, the label becomes a key mechanism for differentiating between units. The label itself forms the basis of a barrier or membrane between different units.

4.4.2 Rituals

Rituals are formal or informal events that are made up to satisfy stroking or structural needs. The rules of which are followed as reward-seeking compliance. A number of rituals such as handshakes, greetings and tea times have been noticed in the Public Health System, some of which have very clearly defined “rules”. Following is more detail on the “Tea Ceremony” ritual.

4.4.2.1 Tea Ceremony

A favourite ritual in the Public Health System is the Tea Ceremony. Having beverages during working hours is a common practice in most organisations. However, this research will aim to illustrate the peculiarities of the Tea Ceremony in the Public Health System, thereby indicating the outward expression of their internal “script”.

Background

The existence of the Tea Ceremony was first noticed in the author's role as a consultant to Public Health. This was further elaborated on during interviews and meetings that were held for the purposes of this research.

Historically this ceremony took place at designated times to fit in with the pastime of Clock Watching (explained in paragraph 4.4.3.1), or when important visitors arrive. Part of this continues to this day where hot water is brought around at specific times (10h00 and 15h00). The Tea Ceremony has since moved on, and in some places having a tea or a coffee break at any other times is not frowned upon.

Historically, the coffee, tea, sugar and milk were also provided, but a decision to curtail costs (at certain levels of the system) some time ago put an end to this.

What makes the Public Health Tea Ceremony unique is that, depending on your level in the organisation (see Status Rivalry in Paragraph 4.4.4.2); there are different rules and requirements for when and where the ceremony is held, and for the provisioning of cups and tea.

"At the end of the day, my boss has got a boss, whose got a boss...the president is after all everybody's boss" (ISSupport1) 5:06

Following is an outline based on approximate salary level or rank.

Level 1&2 Support staff: They supply their own coffee and tea, and typically share it in a group (of similar level staff). They normally use their locker rooms, or a kitchen under their responsibility. Supplies are bought in large quantities on a monthly basis. Tea Ceremonies occur strictly during designated times. No visitors are entertained during other times.

Level 3-6: Clerks or trainees (ISSupport1, 2005) typically share an office or a ward, and may have a communal kettle, or if enterprising, their own fridge or the use thereof. Staff keep their own cups and supplies either at their desk, or in a communal area. Tea Ceremonies are held at designated times, depending on the shifts, but may be combined with a quick "Smoke Break".

Level 7-12: Nurses, officers, assistant and deputy directors (Admin1, 2006). This level of staff usually have their own kettle, cups (for visitors as well), and supplies either in or on their desks, or in their office if they have one. Doctors and nurses may have a designated tea room or congregate around a work area. A Tea Ceremony is held whenever important visitors arrive (higher ranking, public or researchers), or during designated tea times. Normal work is suspended (in most

cases) in order to participate in the ceremony. Depending on the level, and the person's income, they may have their own kettle, microwave, fridge, and serving area. They also may provide additional biscuits from their own supplies.

Level 13-15: Doctors, directors, chief directors, and deputy director generals (Doctor1, 2006 CIO). At this level, the health official typically has a secretary or PA that offers or makes the tea (on instruction from the director). Offerings may include cool drinks, bottled water, or biscuits. A separate table or area may be available for having tea. Normally biscuits are included. Because of the high level, and the number of visits from more junior people, people from most levels that are not part of that specific organisational structure are offered tea.

Level 16 and up: Director Generals, HOD, MEC, Ministers. At this level of the Public Health System, officials typically have a reception area for visitors. It is here that tea/coffee is served, prior to moving to the meeting area or boardroom. They may also have their own kitchens, fridges, hot water urns, etc. The offering may include hot or cold drinks, biscuits, sandwiches, and may extend to lunch, depending on the level of the official, the length of the meeting, and the time of day.

It should be noted that the levels indicated above are not absolute, and may vary from province to province, and between National, Provincial and Local Health authorities.

Participating in a Tea Ceremony with a Public Health official when invited is important. When offered tea/coffee it may be considered rude to decline. It also appears to be important to stick to small talk (weather, rugby, elections, etc.) while partaking in the tea ceremony. Only after the ritual is completed may one delve into the business at hand.

A one-upmanship to the tea ceremony is to invite the official for a cup of coffee in the hospital facility, cafeteria or restaurant. This can only be done at specific levels and as a return of favour by having participated in a number of offered Tea Ceremonies.

The tea ceremony ritual is extended to the "Let's Meet" pastime. During a Let's Meet, participants will normally be offered tea/beverages before a meeting, and at designated times during the meeting. Again the level of beverages is directly related to the status of the host.

Transactional Analysis

Having a “break” from normal work is important in order to “break” the boredom, interrupt the stream of patients, or routine etc. The Tea Ceremony offers the ideal vehicle for such an activity.

Although seemingly unstructured, the Tea Ceremony in the Public Health System is very structured, with variations around what, when, and where it is offered.

A Tea Ceremony is engaged in for its own sake, and becomes a legitimate and socially accepted way for officials in the Public Health System to structure their time.

The social aspect of the Tea Ceremony is one of having refreshments, and taking a break. The transactional state of the Tea Ceremony may vary depending on the conversation (that is typically started by the host). Topics may vary from discussion about elections, the weather, or TV, and may also be an opportunity to “catch up” with what has been happening in the participants’ lives. It also offers the participants a mechanism to avoid dealing with the realities of the environment. It is ultimately used as a means of gaining a psychological payoff such as “mine is bigger than yours”.

A transactional analysis of the Tea Ceremony may be made as follows:

Social: A-A. Let’s have some refreshments / have a break/ chat

Psychological: C-C. I’ve just bought a new car (which is better than yours) - or- I am important, look at my office, -or – Look at poor me, I hardly have a time to take a break.

This is depicted in the TA model in Figure 10.

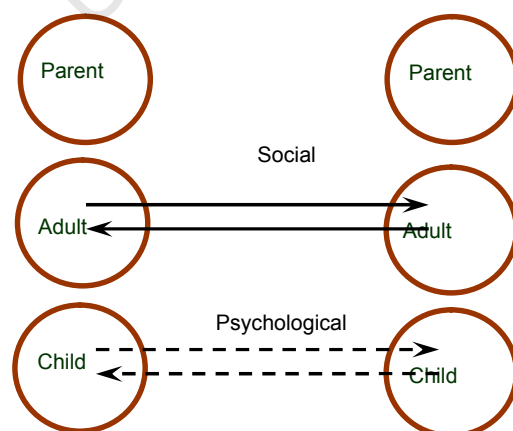


Figure 10 Tea Ceremony Transaction Model

The payoff for the participants is that:

1. They can actually take a break from and/or avoid actual work.
2. They can gain valuable information from the other person players which can be used in further game playing
3. They can ask for and give strokes, e.g., you're so lucky to have a new car.

According to Berne (1963) the value of such rituals as the Tea Ceremony *"is that they offer a harmless (preliminary) way for people to feel each other out"*.

4.4.3 Pastimes

Pastimes in the Public Health System may have developed as a mechanism for coping with boredom, rigid structures, and frustrations experienced in performing the formal aspect of work. Following is a non-exhaustive analysis of some of the pastimes encountered during this research.

4.4.3.1 Clock Watching

"Clock Watching" is not a pastime unique to the Public Health System. There is, however, some evidence that people's commitment in the Public Health System is measured by the time that they are at work, rather than their productivity (See the game GIGO).

Background

The Public Health officials that were interviewed were in general very particular about the times that they were available. It should, however, be noted that the majority of interviewees were administrative, and that an exception may exist for medical staff such as doctors or nurses. It was observed in the clinics that were visited, that nurses stopped serving clients when their shift ended, or when it was lunch/tea time.

Description

Clock Watching usually means that people tend to arrive, have lunch, and leave at a specific time (i.e., 08h00, 12h30-13h00, and 16h30, respectively). Core hours may vary between provinces, and levels of the system, with shift work being more usual for medical staff such as doctors and nurses. This may signify that staff try to work the minimum amount of time. Sometimes, as in the case of Doctor1, it

actually has the opposite effect where he gets to work long before everyone else (and especially before his manager), in order to show his commitment.

“That is one of my most difficult tasks. To be able to enforce discipline and supervision over all my staff...If I’m at point A to ensure that everyone is on time, I can’t be at point B” (ISSupport1) 25:19

The more senior one’s position becomes (CIO1; ISAdmin3), the more “flexible” the clock becomes. Meetings (See “Let’s Meet” in Paragraph 4.4.3.2), and other commitments often take senior staff away from their offices. Meetings can often be deemed very important (especially if a more senior person such as the MEC or HOD has convened it).

Very senior staff such as ministers, DG or MEC attend international meetings and conferences (as experienced at the WITFOR conference in Botswana), where clock watching becomes even less important. In fact the opposite occurs where they may be late or not turn up at all for events such as opening ceremonies or talks where they are the speaker. (This was observed at the WITFOR and eHealth Conference in Mmabatho).

This variation of “Clock Watching” is frequently referred to as “African Time”, where the amount of lateness is directly proportional to importance of the meeting, and the seniority of the person.

Transactional Analysis

Berne (1963) states that not many people have the ability to structure their own time. For the majority of people it is therefore easier (or simpler) to fit in with established norms and events as arranged by others. It also becomes simpler for the system (managers, etc.) to keep track of productivity (or lack thereof) by tracking peoples’ attendance or not. This implies that managers do not need to understand or be involved in their staff’s activities, as long as they know that they are at work.

Staff members also prefer Clock Watching, as it requires them to think less about what they are doing; as long as they are busy or appear to be busy. Clock Watching avoids those awkward moments of silence (Berne, 1964), and provides an outlet for staff to channel their activities. The latent fear is that if time is not structured in this way, then the Child may become dominant (Berne, 1963).

Clock Watching shows evidence of the “Parent” etiquette (Moreau, 2005) where events need to be ordered, planned, and monitored in terms of what one is supposed or expected to do.

This pastime extends an invitation to anyone who wishes to escalate it into a game. These invitations hook the rebellious child (RC) or adapted child (AC), and can even invoke a critical parent (CP) response.

4.4.3.2 Let’s Meet

Let’s Meet refers to the pastime of calling and having meetings in the Public Health System. Meetings²³ are an essential part of organisational life. However, when the meeting becomes a ritual rather than achieving an objective, then it becomes a pastime.

Let’s Meet can refer to group meetings, or to one-on-one meetings. When arranging a meeting, protocol requires one to define the subject, place and time. Let’s Meet is often preceded by Greeting Rituals, Tea Ceremony and even Clock Watching.

Background

From a TA perspective, there are two aspects to these meetings. One is the social or rational aspect of a meeting. The other is the psychological aspect, i.e., the underlying reasons why people meet, and the possible games that are played during such events.

For Let’s Meet, there are a number of moves that can be used by experts to either avoid, or achieve psychological advantage. In the Public Health System, the author identified four key tools for playing Let’s Meet; namely Priority, Permission, Purpose, and Protocol.

Priority refers to how “Politically” important a meeting is. This can also be determined by the seniority of the person calling the meeting, the venue where it is held, the scale of the “Tea Ceremony”, or the importance of persons attending. The Priority has a direct correlation to whether people attend or not. When there is a conflict of meetings, the higher priority meeting will be attended (i.e., the one with more important people attending).

²³ In the context of this research, when reference is made to a meeting, it refers to the social concept of having a meeting. When referred to Lets Meet, then it refers to the psychological pastime (and possible game playing) aspect.

Permission refers to the mandate, or “official-ness” of the meeting. This can be linked to the mandate for the meeting, who has given approval, the required channels to be followed, and whether attendance is required or optional.

Purpose refers to the psychological (not the social) purpose of Let’s Meet. This can range from one-upmanship, to establishing authority, or as an invite to play a game.

Protocol refers to how Let’s Meet is played. The Protocol determines who are invited, who makes the first moves, what these moves are, and how they are responded to. It should be noted that during meetings held as part of this research, minimal evidence was found of the “Let’s Meet” pastime. People were extremely helpful and accommodating, and were very focused on the business at hand. Based on the attendance of meetings as a consultant, however, greater evidence of the pastime “Let’s Meet” was observed. It would appear that one needs to observe/participate in “real-life” meetings, and not attend meetings as interviewers, to be able to observe this pastime.

Transactional Analysis

Based on observations during formal meetings, the behaviour and demeanour of participants outside of meetings and inside are completely different. Outside, and before and after meetings, people react naturally, and converse fluently. In meetings, strict protocol is followed, with often parental demeanours, and formal addressing of persons. It appears as if participants satisfy their need for strict parental control (Mr Chairman/Lady) and for acting out their games and achieving recognition.

4.4.4 Power Plays

Power Plays are aspects of Games, or a mechanism used for manipulation in getting what one wants. The Power Plays highlighted here are not a detailed analysis of such games, but merely highlight their existence as noted in the interviews.

4.4.4.1 Paper Chase

The power play of paper chase is based on a legitimate need to complete specific forms or documents in order to accomplish a specific purpose. Examples of these are opening a patient file, completing an admission request, getting approval for a specific procedure, or getting a prescription. It becomes a power play when the

completion of forms is specifically used as a delay or procrastination tactic, or as a means to get someone else to do something that they do not want to. This is evident in practices requiring patients/people to go to different people/sections in order to complete these forms, requiring numerous signatures, and using documents as a means to protect one's interests. This power play is complemented by the game of "Pass the Buck".

4.4.4.2 Status Rivalry

Status Rivalry is evident in the entrenched hierarchies of the system.

"There is always competition, and the one wants to make a better impression than the other one" (ISSupport1) 16:48

Associated with this Power Play are the status symbols such as size and position of office, salary scale/rank, department or level (National, Provincial, District or Local Government), secretaries, coffee/tea facilities, computers (whether it is a laptop, PC or thin client), sizes of desks and amount/quality of furniture, etc.

Even though everyone has access to computers, some are limited to having access to email" (ISSupport1) 30:00

"So now once again it is making a distinction between staff members ... I feel that I also need it because I am also a senior clerk" (ISSupport1) 30:15

"Laptops are definitely out of reach of the workers...only senior managers" 30:55

This power play can be seen as satisfying the need for recognition in a stroke-scarce environment.

"The new struggle is a struggle for wealth...Money, position, hierarchy" (Nurse3, 2006:24.12).

4.4.4.3 Flavour of the Month

Evidence of this power play was confirmed during one of the interviews, where it was noted that the appointments of staff does not necessarily follow prescribed procedures, but is based on political power.

"It's a very political thing, a lot of appointments in hospitals are political appointments, you were with me in the struggle, but what you know about running a hospital, it's not important. We will get somebody to do the job, you just have to sit there" (ISDev1, 2005:16.55). And,

“The people that are managing them, especially at the more senior level are being appointed because of who they know and what political links they have and not because of their training” (Doctor1, 2006:26.00).

This power play extends from clinic level to national government, where new government ministers replace deputies with their own selected people.

“It’s very political like when we get a new boss on top everybody underneath him gets changed as well... it’s like who is the flavour of the month from the Premier right down to the all the people in the departments”. (ISDev1, 2005:26.00).

It was also noted that this power play extends to the selection of information systems, where every time a manager is replaced, the system is also replaced.

“People make a decision, then they get shifted out of power, then the next bloke comes along...then they find they made a mistake buying that system, then there’s a big scream and fuss and then, let’s have another system, blame it on the previous Administration and then the new system gets put in. (ISDev1:16.55).

4.4.4.4 The Boss Called

This Power Play is revealed in how staff prioritise activities based on the seniority or line of command of the requester. When there is a crisis (e.g., someone senior has requested that something needs to be done), then staff have a reason to be rushed, drop all existing activities, and focus on satisfying the request. These requests can also be used to bypass protocol, process or regulation, depending on who requested the task.

4.4.4.5 Let’s Help

While conducting the interviews, people were generally very friendly, and extremely helpful. People were open, and very willing to provide information. People seemed to make time for the visits, and were happy to spend as much time as was required for the interviews/meetings.

In a caring environment, this could be the emergence of a Nurturing Parent; however, this is highly unlikely in a predominantly Critical Parent environment. It is more likely to be signs of an adaptive child ego state, where the participants are eager to please others, and are careful not to disturb the status quo. TA also

introduces the concept of a Driver, which is a way to recognise scripts that drive behaviour. A driver that is applicable here is the “Please Others” driver.

4.4.5 Games

As has been previously noted in this research, Games are distinguished from Rituals, Pastimes and Power Plays in that they are played with an ulterior motive. This normally manifests when participants change (switch) the way they are behaving in order to achieve an ulterior benefit. At this point participants are often confused, misunderstood, or wanting to blame someone for things going “wrong” (Stewart and Joines, 1987).

It should be noted that the current trend in TA is not to name the games, but to focus on the basic patterns or switches occurring in these games (Stewart and Joines, 1987). For the sake of the discourse, and of referring in a simple way to the pastimes and games identified in this research, the approach adopted by Berne (1964) of naming games will be used. The games will then be further analysed according to the switching or shift in the drama triangle patterns as is the current trend.

4.4.5.1 Patient Game 1 – Pity Me

Patient Game 1 was identified after having a discussion with my domestic worker on her visits to the public health clinic. After requesting her permission, she was interviewed, and the following transpired.

Background

On a social level, people going to clinics, waiting in queues for most of the day, being referred to other clinics, having to wait again, with people passing away while waiting, a shortage of nurses/doctors, etc., is reasonable, and can be even considered to be normal in South Africa.

From the account of Patient2 (2006), something appears to be at odds with this description. According to the patient, she uses the Public Health System (clinic in this case) because it is free. The “cost” is that she has to sit in long queues for a whole day in order to see the one doctor at the clinic.

If the patient does not wish to sit in the queue, he/she needs to be very sick or unable to sit in the queue (or act that way), or needs to know the nurse, or pay between R10 and R20 to jump the queue.



Figure 11 Patients waiting at a clinic (Foster, 2006)

Also, the patient is earning \pm R70 a day which he/she forfeits when not working (unless the patient is employed at a company). Furthermore, patients have to pay \pm R100 to get a letter from the nurse booking you off as unable to work (for social disability).

“Because we get such masses of patients, they need to wait. If it is an emergency (trauma or likelihood of death) they are fitted in. (For) a non-essential procedure such as removal of tonsils people have to wait 3-4 months” (Admin1):10:05.

Even when the patient does eventually get to see the doctor, this is merely a cursory visit (less than 5 minutes) with no examination, frequently resulting in the prescription of Panado or rest (sick note). Should the patient ask a nurse or sister for help or information, she is quickly told to wait for the doctor. This happens despite the fact that the nurses are chatting with friends or other nurses.

Transactional Analysis

If one considers this script, story, or sequence of events from a Transactional Analysis perspective, one can start to see the drama that appears, possibly leading to a game between the patient and the Public Health System.

It is quite feasible that this ritualistic behaviour can be repeated indefinitely without negatively affecting anyone. The differentiating factor between scripts, pastimes and games is that games include a turning point or switch, where all the players eventually feel cheated.

In this case, it happens when the player has spent all day waiting to see the doctor, only to be told to hurry up, without a proper examination, because the doctor still has lots of patients to see. The doctor also feels cheated in that patients “waste” his time with non-serious complaints/illnesses (as if they just wanted a visit for no reason).

According to Karpman (1968) three roles, which can be played by two or more people, are required for a game to be played. It should be noted that a distinction should be made between a Victim, and Vulnerable Patient. A Patient (Victim) is being or acting helpless/downtrodden, and a Patient (Vulnerable) is being vulnerable with genuine needs and expectations.

If we follow the sequence of events tabulated in Table 10 one also sees the change of roles as described in this drama.

Person	Role	Expression	Invite for a:
<u>Patient</u>	<u>(V)ictim</u>	<u>I am poor (no money) so I have to go to the clinic</u>	<u>(R)escue</u>
Health System (Clinic/Nurses/ Doctor)	(P)ersecutor	Wait outside (in the rain and/or sun) in a long queue for most of the day	<u>(V)ictim</u>
<i>Nurse/ Security</i>	<i>(R)escuer</i>	<i>You don't have to stand in the queue if you know someone or pay the security</i>	(P)ersecutor
Patient	P	Other people are jumping the queue	<i>R</i>
<u>Nurse</u>	<u>V</u>	<u>It's not our fault. The person was here earlier/is sick/need</u>	<i>R</i>
<u>Patient</u>	<u>V</u>	<u>I am too sick to stand in the queue</u>	<i>R</i>
<i>Doctor</i>	<i>R</i>	<i>Very sick/ill patients get priority</i>	P
Patient	P	Why must sick people get preference over me	<i>R</i>
Doctor	P	Hurry up; I have lots of patients to see.	<u>V</u>

Table 11 Sequence of Transactions for “Pity Me”

This sequence clearly shows how the role of the Patient changes from (V) to (P), and that of the Nurse from (P) to (R) to (V), and that of the doctor from (R) to (P).

It is highly likely that at some stage the patient will also become a rescuer; such as keeping a place for someone in the queue, or trying to help the doctor, although it is not evident from the interview material.

It is also evident that the doctor will also play the role of victim, such as “I do not have enough resources”, or “There are too many patients for me to treat in a day”, etc.

Script Analysis

When one puts this sequence of events or script into the perspective of a game, the following can be observed in Table 11. In this case the game starts with the Patient (Victim) and plays out as follows:²⁴

Formula	Public Health System	Patient
CON		<u>I am sick and I don't have money to go to the Doctor.</u>
GIMMICK	<i>Come to the clinic where a doctor will see you for free.</i>	
RESPONSE	You have to sit/stand in the queue all day?	<u>I suppose I deserve this treatment, as it is for free...</u>
	<i>You can pay to jump the queue. If you are very sick they will help you quicker.</i>	<u>The nurses do not want to help me and tell me to wait for the doctor.</u>
		<u>The nurses do not do any work and chat to other nurses/patients.</u>
SWITCH	<u>There is only one doctor.</u>	<u>Maybe the Government does not want to pay for more doctors?</u>
	<i>The doctor does not examine me properly (he just asks questions and makes notes)</i>	<u>Maybe I deserve to be treated this way?</u>
	The doctor tells me to hurry up and that I am not so sick, because he has lots of sick patients to see.	<u>After I get to the Doctor he gets called out because someone has died in the queue.</u>
	The Doctor tells me to go to the surgery.	<u>If I go to the surgery I have to pay the doctor.</u>
	<i>The nurses can write me a disability letter.</i>	<u>The letter will cost me R100</u>
CROSSUP	???	???
PAYOFF	<u>I can make more money from these patients in my own surgery</u>	If I want the doctor to help me (at his surgery) I must pay him.

²⁴ The text represents the belief systems or rackets of the individuals involved in the game, and not the actual transactions that occur.

Formula	Public Health System	Patient
	<u>I am only doing this work because I have to (need the money)</u>	I can pay to see a private doctor
	<u>I need to be paid more because I see so many people every day.</u>	But why must I go to a private doctor when there is a doctor at the clinic, and it is free? The government owes me this (entitlement).
		<i>Because I am so poor and needy, I have to suffer the hardships at the clinic.</i>
		<i>Maybe someone will feel sorry for me (and rescue me).</i>

Table 12 Game of Pity Me

From the depiction in Table 11, the following preliminary analysis can be made²⁵.

Game Analysis

The aim of this game is to gain social recognition by establishing a life position of being unloved/uncared for. The successful outcome will result in people feeling sorry/pity for the player, and wanting to help by either providing money/advice, etc. The game is played from a life position of being needy, helpless, wanting pity and having no money or love. The antithesis of the game is being vulnerable, responsible, and capable of helping self and having freedom of choice

The psychological paradigm is of being a sick and helpless child and needing a parent to help or rescue. The paradigm of the parent is being cruel, and teaching the child the hard rules of life (wait in line). The social paradigm is a CP-C interaction.

Conclusion

From these events, it is clear that some of these games involve real sacrifice and suffering by the players. It is important to realise that the reward (payoff) for playing the games needs to outweigh the “cost” of the game, otherwise the player will seek an alternative setting.

²⁵ It should be noted that the game can be further analysed by visiting the clinics and observing the players in action.

Whether by accident or intention, some of the players in this game are playing a more serious version. In TA it is known as a level 3 game that may end up in the morgue, hospital, or courtroom. This is where players try to increase the strength of their position by either becoming more seriously ill, using force (verbal or bodily) to defend their positions, or by bringing in a third party or player.

This can explain why a person could pass away while “waiting” for the doctor to attend to them or for the ambulance to arrive such as in Allan et al. (Allan et al.).

The game can be compared to the game of Clinic (Berne, 1964) and/or Indigence (Berne, 1964). Berne indicates that these Patients serve a useful social purpose, in that they support the health system to maintain its function (training of staff, studies of disease, etc.).

4.4.5.2 Patient Game 2 – I Can

Games, by definition result in a negative payoff. Following is evidence of the start of a game, and how Patient1 turned it around by using authentic responses and behaviour.

Background

The background to this script is based on the life story of Patient1 who has been living with HIV/AIDS for ten years. He deeply believes that *“I’m not afraid of this disease”* anymore (Patient1, 2006:3.14) despite still having physical symptoms and signs that scare him. For a complete outline of his story, please refer to the interview summary in Paragraph 4.2.13.

“I have overcome the battle that other people with AIDS have died from”
(Patient1, 2006:3.35).

Patient1 believes that by taking every day as it comes, he becomes mentally stronger in his belief/faith.

Transactional Analysis

From a TA perspective, for a positive cycle to develop, one has to focus on the three roles of Assertive, Nurturing, and Vulnerable.

Assertive (ASTV) – Accepts others’ value and integrity.

Nurturing (NURT) – Accepts others’ ability to think for themselves.

Vulnerable (VULN) – Accepts self.

If we follow the sequence of events as described in this drama, one also sees the change of roles.

Person	Role	Expression	Invite for a:
<u>Patient</u>	<u>VCTM</u>	<u>HIV + because of tattoo</u>	<i>Rescue</i>
<u>Patient</u>	<u>VULN</u>	<u>Dependant on Public Health System (no money)</u>	<i>Nurturing</i>
Doctor	PSCTR	You will be dead of AIDS in 5 years	<u>Victim</u>
<u>Patient</u>	<u>Vulnerable</u>	<u>Excluded from society</u> <u>Difficulty in dealing with AIDS</u>	<i>Nurturing</i>
<u>Patient</u>	<u>Victim</u>	<u>Attempted Suicide, Depression</u> <u>(Cannot deal with issue, cannot help self)</u>	<i>Rescue</i>
<i>Doctors</i>	<i>Rescuer</i>	<i>Transfer to psychiatric ward</i>	Persecutor
<u>Other Patients</u>	<u>Victims</u>	<u>Dying from HIV/AIDS</u>	<i>Rescue</i>
<u>Patient</u>	<u>Vulnerable</u>	<u>Can either die or live with AIDS</u> <u>Chooses life</u>	Assertive
Patient	Assertive	Abstain from drugs/alcohol Turn life around Start focusing on self and purpose	<i>Nurturing</i>

Table 13 Sequence of Transactions for HIV patient

"It's made me stronger because I don't need their (the government's) medication. The resources of the earth provide enough for my body to have an excellent immune system (Patient1):24:00.

Although strictly speaking not a game, it can be seen that Patient1 is continuously exposed to persecuting/rescuing invites, but keeps on responding from an Adult perspective. This results in the patient taking responsibility for his own life/actions.

Script Analysis

Prior to contracting the disease, Patient1 did not care (for himself or others). From his experiences, Patient1 has developed a positive life position of:

- *"I want to go out there and make a difference"*
- *"I want to show people that living with HIV/AIDS is OK"*
- *"You can achieve anything in life"*
- *"You have to love yourself before you can really honestly help and love other people" (Patient1, 2006:16.42).*
- *"I know that I can live a prosperous and healthy life with AIDS and never become sick"*

- *“Because something happened to me I now have the opportunity to love others today” (Patient1:22.25).*
- Love associating with people, Love communicating (*Patient1, 2006:21.00*)

In contrast with the script of Patient2, Patient1 has realised that he can look at his affliction (disease), both in a negative and positive way. He chooses living over dying, and as such seeks experiences, relationships, and care that supports this choice.

The result is that he sees/experiences the health system as a support structure, rather than a dependency. He also maintains full autonomy, and chooses when and how to interact with the system. He does, however, acknowledge his vulnerability, and realises that one day (with full-blown AIDS), he may be totally dependent on the system, but this does not strike fear into him, but rather encourages him to maintain and improve his healthy outlook on life.

The effect of these choices is based on an adult mindset, and as such does not exhibit the game-playing tendencies of Patient2. From an ego perspective, it can be seen as a life position of I’m OK, You’re (Health System) OK.

4.4.5.3 System Game I - Pass the Buck

The term “Pass the buck” is derived from the poker practice of passing the dealer button or buck to the next dealer, indicating a passing of responsibility (Wikipedia:Pass_the_buck).

Background

Evidence for Pass the Buck was first identified while examining the implementation of the Medicom system in the GPG (MSP, 2004). The DoH has their own IT division. However, certain services are rendered by the State Information and Technology Agency (SITA). Also, certain units are responsible for their own needs such as admissions, etc. The pharmacy module of Medicom had not been implemented at a specific hospital. Computers were installed, and configured, but were switched off, and had not been used for more than a year. When the pharmacy staff were questioned about this, they said that they were waiting for procurement to load the stock on the system. When procurement was asked about this, they said that they used an Excel Spreadsheet for ordering stock from suppliers, and did not use the Medicom software at all. It was suggested that management be contacted.

When management was asked about the pharmacy module, they felt that the IT department was responsible for implementing the module.

This game is also evident in the way patients are admitted to the system. The different hospitals (or levels) cater for specific needs, and patients are required to be referred from Clinics to District, and then Provincial hospitals. Patients do not necessarily know this, and may arrive at a hospital with an injury, only to be told that they should go to a clinic. Patients may also arrive at a clinic, only to be told that they need to go to a district hospital, as the clinic is not equipped to deal with their injury.

“Because we are a tertiary institution, patients cannot come to us directly...they have to be referred. They cannot just come with a broken ankle, and expect to be treated” (ISSupport1) 0:23

Even at a specific hospital, a patient may be turned away from admissions because the injury/illness is not deemed critical enough to qualify as an emergency (Admin1, 2006). Often the patient has to wait for a doctor to assess the injury, and then is passed on to the relevant section, in some cases having to travel, or join another queue.

As an example, one of the regional hospitals quotes figures of seeing 100 emergency patients per day and 600-1000 outpatients per day (Admin1). The reality is that at some clinics/hospitals, very few patients are attended to on a daily basis. The waiting lists and ratios (patients vs. staff) are also very large.

“Difficult patients are referred to another level (Nurse3).

The process is described by Admin1 as *“Patients are supposed to visit day hospitals, and if they cannot be attended to there, then they are referred to Level 2” (Admin1, 2006).*

- Districts or clinics are closest to patients.
- Patients have to wait a long time at district hospitals or clinics because of the number of people they serve in the area.
- These clinics only cater for certain procedures.
- If the patient cannot be treated there (not allowed to do procedures) then they are referred to a level 2 hospital for which the patient must pay.
- The patient needs to be referred to a level 2 institution with a referral letter.

- To get the letter, a patient needs to visit a clinic, pay a fee to be seen, and sit in a queue.

“Transport is a problem to this hospital. There is no public transport, no taxis, no buses, and no trains (Admin1, 2006). The following is noted from this situation:

- This makes it extremely difficult for patients who are dependent on the public system, to attend the hospital.
- When the patient reaches a level 2 hospital, the patient must pay again (to be loaded on the system) Note: Once you are loaded, then you can come straight to a level 2 hospital.
- If the level 2 hospital cannot perform the procedure (trauma, heart attacks, orthopaedics, HIV/AIDS) then the patient is referred to a level 3 hospital.
- The patient has to travel (even further), and wait again. The procedure repeats.

The reason given for the above process/delineation is that they do not have specialists or equipment at that level. This is because they do not have sufficient funds (and cannot hire the right people). This strategy is in direct conflict with the needs of patients, who have to pay every time they visit a different clinic, and have to incur travel costs to go to the different levels of clinics.

In this way responsibility is passed around, resulting in displaced responsibility; with no-one accepting ownership. The outcome is that the system is not used or adopted by anyone, and that the implementation is stalled or that people are confused, and frustrated. Despite this game, it appears as if the system is attempting to adjust or correct for this game.

“They (regional office) look at these to make it easier for patients. They want to change the drainage areas” (Admin1, 2006).

Also, according to the 2010 Health Strategy (2007:5-6):

“A fundamental assumption of Healthcare 2010 is that the number of patient contacts would not be reduced but that patients would be treated at the level of care that is most appropriate to their need within a seamless service”

and

“The eight sub-districts of the Cape Town Metro district were mapped to provide appropriate drainage and referral routes for patients from clinic to CHC to district hospital and the number and location of facilities were determined by a combination of factors such as population size and utilization rates per geographical area.”

In order to optimise this strategy, the following was planned:

“Change the configuration of beds in the Metropole region by increasing level 1 beds in order to avoid inappropriate admissions of level 1 patients to level 2 beds.”

and

“Treat patients at the lowest appropriate level of care. This means that inappropriate referrals to higher levels must be avoided”.

Transactional Analysis

Based on their roles (or Labels), it is easy for a division/section to pass responsibility (the Buck) to someone else. This does not mean that it may not make sense to structure the organisation according to functional lines or levels of need. On a social level this appears to be the case. The result, however, is that citizens (or internal queries) are passed from pillar to post, until the “correct” (according to the system) function is reached. In some cases this can become very frustrating when no “correct” function is found.

On a psychological level, the system appears to derive pleasure in this “game” by passing people or responsibility along (Pass the Buck). This is accompanied by minimal information upfront in terms of signage, public information, etc.; (see the analysis of the Public Health System appearance for evidence of this) as if a game of hide-and-seek is being played.

There is also a good chance that the required function does not exist, or that no one wants to take responsibility. It is at this point that a new function or role can be motivated by the system to create a further empire or ensure the continuance of the system. Depending on the political importance of such a need, a function at the appropriate level in the organisation is introduced, with its corresponding structures.

This pastime may also escalate into a Game when the players decide to confront the system as to the inefficiencies and/or frustrations. Evidence of this has,

however, not been uncovered in this research. Because of the potential for a switch, Pass the Buck is labelled as a Game.

Game Analysis

Insufficient evidence has been collected to analyse "Pass the Buck" in further detail. However, the sequence of moves can be defined as follows:

Person	Role	Expression	Invite for a:
<u>Patient</u>	<u>VCTM</u>	<u>I am injured, I need attention.</u>	<i>Rescue</i>
Health System	PSCTR	Please wait until someone can attend to you	<i>Rescue</i>
<i>Health System</i>	PSCTR	<i>We cannot help you, you need to go there.</i>	Persecutor
<u>Patient</u>	<u>VCTM</u>	<u>I am injured, I was told to come here</u>	<i>Rescue</i>
Health System	PSCTR	Please wait until someone can attend to you	<u>Victim</u>

Table 14 Transactional Analysis of "Pass the Buck"

This may lead to possible repetition of above steps, until the patient gets frustrated and his/her role changes to that of Persecutor. A possible response by the system could be that they require additional resources to cater for these needs, i.e., by playing a victim role.

Conclusion

In the Public Health System the game of Pass the Buck originates from the practice of passing responsibility between different levels and sections of the Health System. Pass the Buck depends on the pastime of "Label Me" in order to identify the different sections/levels to which to pass responsibility. The way that the Public Health System is structured is that different sections (or levels) are responsible (or seen as responsible) for different functions/actions, etc. In GPG DoH, e.g., they have the following functions: Medico Legal and Forensic Pathology, Hospital and Specialised Services, Public Health, Quality Assurance, HIV/AIDS/TB, Nutrition, Provincial Hospital Services, District Health Services, Emergency Medical Services, Health Training Services, and Management Information Systems (MIS or IT). These functions are based on a need (or perceived need) for such a function in the system (See the analysis of "Label Me" in Paragraph 4.4.1.1). Certain legislation exists that defines specific functions on a macro level (See the analysis of the Public Health System in Paragraph 4.3). On an institutional level these functions are encapsulated

by the strategic goals and objectives of the institution. The budgets are also allocated according to this relative importance (Gauteng Provincial Government Budget Statement 2004/5).

4.4.5.4 System Game II - No Money, No Fun, No Care, I'm Scary

This game has its origin in discounting, and the "no joy" script as outlined in Stewart & Joines (1987).

Background

The effect of the hospital environment and interior on patients' perception of caring, and the effect on healing is well documented (De Vos, 2006; Olsen, 1984; Ulrich, 1991) and recognised in Public Health by Admin1. For the Public Health System in South Africa, there is no money to make things look better or to modernise. *"In the public sector everything is basic; worn but clean. There is no money"* (Admin1, 2006:39.40).

Staff members try to improve the environment for patients from a non-clinical perspective. Even though staff realise that it makes a big difference, no funds are made available for improving the environment, and staff can therefore do little about it.

"There are also strict regulations for accepting donor funding, and for applying for funds for specific projects. Sometimes voluntary workers help in the hospital (they improved our children's rooms). There are such projects, but there is not always funding available" (Admin1, 2006):41:10.

If one had the choice of employing another person, or of beautifying the hospital, the person would rather be appointed. It becomes a vicious circle as it becomes either/or, and the biggest problem is that there is no money (ISAdmin3, 2005).

"It is disconcerting to see how the other hospitals are deteriorating. The service that has to be delivered and the conditions of the hospitals. It is not dirty, just old buildings that are getting older, and neglected, because there are no funds. It is worrying to see this.. For example, (another Academic Hospital) looks worn, but the bedding is clean. The paint is peeling off the

walls, the floors look bad, but the patients' beds are clean" (ISAdmin3, 2005).²⁶ (Admin1)

In a case where staff decided to improve the look of a children's ward by painting the walls in bright colours, they were asked to change it back to the original, because it does not fit the "standard" (Admin1, 2006).

Herein lays the switch. The administration wants uniformity in the hospital. Therefore when one place wants to improve the environment, another does not want to look different, and therefore nothing is done. (ISAdmin3, 2005). In situations where improvement is suggested, or questions raised around service delivery, the system blames the fact that:

- They don't have the time.
- They don't have the staff.
- They aren't capable of doing it.
- They don't have the funds.

In some instances this may in fact be the case. A lot of attention is given to these aspects in the hospitals (shortage of nurses, lack of funds, misappropriation of funds, etc., (Allan et al., 2004)). In such a case, it becomes all too easy to use it as an excuse to do nothing. These factors are interrelated. Because the system does not have qualified staff with the required expertise to budget and expend funding appropriately, they have a shortage of staff, and therefore little time to spend on the important things.

"I think there are some fundamental things that are so easy to do, but you have got to have people who are interested in the system to do it" (Doctor1, 2006:2.15).

Structurally the system also does not allow a nurse to allocate a certain amount of their budget for things such as new linen, paint, and/or maintenance. These aspects are planned centrally, and provisioned by different departments (e.g., maintenance, etc.) thereby making it very difficult for nurses to influence these allocations. This is of course also a continuation of the "Pass the Buck" Game, in that no responsibility needs to be taken, as it is someone else's responsibility.

²⁶ On our visit there the public toilets were soiled; toilet bowls blocked or covered, and generally unhygienic. See Section 4.8.6 on Appearance later.

In contrast, where specific attention is paid to hospitals as “differentiated amenities” which generate revenues from private (paying) patients (R31 million in 2003), attention is paid to these factors. See the article on Folateng (2006) for further information.

The same concept applies to the way that patients are treated. Although preventative health benefits are clearly recognised by the Public Health System, there are unwritten rules which do not encourage it.

You may have your hospital doctors that have a different approach, but they have no influence. (Doctor1): 20:00

This stance further entrenches the norms and standards that are unwittingly applied in the organisation, and does not leave much room for flexibility or creativity.

“He could do it within the complex maybe, but it’s only if there are receptive minds, otherwise it will only be him and his approach with his patients (Doctor1): 22:00

Another aspect of the No money/No fun game is the no care injunction.

“I sometimes ask the nurses for information. I realise they do not care about me...the nurses are also not very helpful” (Patient2):21:12.

And from Nurse3:

“One of the main problems (is) attracting people to nursing who are not caring.” (Nurse3):36:00

This aspect is explained by Nurse3 as stemming from people growing up in an environment where they may not have had parents caring for them, or being brought up by relatives or friends. Because they have never received any caring as a child, they do not know how to give it. People who never received caring, as a result cannot give it.

“They have never been loved, nurtured, looked after, held when crying, have just had to grow up and get on with it.” (Nurse3) :38:30.

Another aspect that is blamed for the lack of care, is that nursing is a paid profession, from studying to practice, with the result that it is attracting the “wrong” type of person, i.e., people are more attracted to having free education and benefits, rather than providing healing or health services.

Lastly, the messages that the system is giving to patients tend to be scary in themselves. With health promotion, the messages tend to become ones of fear or

death, e.g., if you don't give up smoking you will die or if you do not use a condom, you will get HIV (Nurse3).

"The messages that the system is sending are very scary...As a result, people don't want to know (that they have HIV) because there is no caring for them, especially for young adults" (Patient2):12:24

The problem is that interventions start out as positive (e.g., to prevent teenage pregnancies), but get convoluted and turned around to become messages of fear (Nurse3).

Transactional Analysis

As mentioned before, this script stems from a childhood injunction of "No-fun" as well as "Don't make it". This script is a losing script, as it means the objective of the organisation is not achieved as a result of it.

The "don't make it" injunction stems from a jealousy where, although success is aimed for, the results are sabotaged. In this game, the vicious cycle is reinforced; where it is acknowledged that it is beneficial for everyone to make things better, but this goes against the script of "poor me", and this paralyses the organisation. If the organisation cannot complain about the lack of funds (even though funding is available), or lack of staff (when the effect they have is of driving prospective health workers away), then the reason for their existence is threatened.

The no-fun injunction stems from the rigid Critical Parent (CP) role or organisational rules and policies which tell the organisation how it needs to behave. This creates a situation where the organisational child or free Child (FC) is excluded, and does not allow for people to have fun in the workplace.

The no-care injunction stems from an absent Nurturing Parent (NP) in the organisation. The absence of the NP is evident in the lack of care for the staff, the environment and buildings, and the resultant lack of care for the patient. This is despite the fact that the system used to attract caring people. What has become the predominant ego state is the CP, and thus it has become easier to recruit CP staff (referred to as militant in the interviews).

The scary messages stem from a CP ego state, where fear is used to control peoples' behaviour, and control is further implemented by passing restrictive legislation (e.g., ban of smoking in public places).

Conclusion

Due to the high level of compliance that is required in the Public Health System, it appears as if the organisational Free Child is suppressed. This results in suppressed creativity, or a reason for people to come up with alternative solutions. Also, even though there may be sufficient budget at certain levels (e.g., R8,7 billion for Provincial Health) (Statement.), it may not be available at the lower levels (the coalface) to spend or positively influence the Public Health System.

4.4.5.5 System Game III - GIGO

The term **Garbage In, Garbage Out** (GIGO) is derived from the computing field where computers accurately process even the most nonsensical input data to produce nonsensical output data. (Wikipedia:Garbage_in,_garbage_out).

Background

Humans (unlike computers), have the ability to think and question their actions. In the Public Health System, however, the term is used as the name of a game, where regulation, orders and processes are followed blindly regardless of the (intended or actual) result.

“You learn by following the manuals, and complying strictly with financial instructions. If you did that you are fine” (Admin1, 2006:0.32).

Not only are orders followed to the letter, but when there is a lack of rules, orders or processes, it often means that nothing gets done.

“Getting people to really understand the system... and the policies and procedures behind it.. We really started off by clicking here, and clicking there...and putting in garbage” (ISAdmin2) 32:21.

There are, however, exceptions to the rule, and this normally depends on the seniority or level of the person as seen in the “Tea Ceremony” and from Nurse1:

“Very strict in what we can do as nurses (as opposed to doctors)” (Nurse1).

It is also clear from the system that the input has become more important than the output. This is evident in their obsession with working hours, strategic plans, targets, etc. For example:

“Implementation of MIS in all hospitals and clinics - Percentage of Hospitals implementing the national minimum data set 80%”

“Implementation of the prescribed staff performance management system - Percentage of Provincial Hospitals and Clinics implementing the prescribed system – 70%”

“Inventory and asset recording system in place at all institutions - Percentage of institutions with an inventory and asset system – 80%”

(Gauteng Provincial Government Budget Statement 2004/5, 2005) 164

Similarly with respect to the ways in which technology systems are implemented:

“We have a very formal structure in approving our new systems. (ISAdmin2)

These inputs do not take into any account the quality of the implementation nor the effect that it has on the recipients.

Transactional Analysis

The game stems from two areas. One is following rules to protect one's own interests, despite the applicability and consequence or as an excuse for not doing anything, and the other is to give lip service to the rules, but then do something differently.

Both these aspects can be traced to the Child Ego state. The obstinate following of rules without evaluation is related to the Adapted Child (AC) which becomes compliant or submissive when presented with requests from a CP. The other is a response by the Rebellious Child (RC) which becomes defiant and complains about the demands that are made by the CP.

Conclusion

As with the previous game, it is evident that the Public Health System fosters a culture of compliance, either willingly or unwillingly, and that questioning the *status quo* is frowned upon.

4.5 Appearances

The appearance comprises the visible aspects of the organisation that we interact with and is considered to be part of the body of the organisation. This section is presented here after the mind of the organisation, so that the reader may understand the thought processes behind the outward expression of the system. The appearance may include the buildings, interiors, or any other visual aspect. Following is a visual representation of the appearance of the interior and exterior of

the institutions visited, analysed using a TA perspective. In contrast a comparable private care facility is depicted.²⁷

4.5.1 Public Buildings

Public buildings in government in South Africa tend to either have a brick or a concrete finish. This may be because of the low-maintenance aspect in that it does not need to be painted or maintained on a regular basis.²⁸



Figure 12 Provincial Government Department of Health

The public buildings depicted in Figure 12 are of the Provincial Government, Department of Health, in the North West Province. The building was originally built for the Boputhatswana government in the 1980's, and was inhabited by the provincial government after the "independent homelands" were re-integrated into South Africa in approximately 1990. The water tower in front of the building was decorated by the Department of Health, to reflect their focus on HIV/AIDS. The NW province has a high incidence of HIV/AIDS, with regular funerals being held for people passing away from the disease. The gardens around the building are unkempt. The tower has slogans on it such as "VCT – Know your HIV status", "Your Choice, STOP AIDS", "STOP STD", "Condoms prevent Pregnancy, STI & HIV", and "A friend with AIDS is still a friend". The tower in some ways looks like a male organ, and the messages that it is sending clearly shows that HIV/AIDS needs to be

²⁷ Disclaimer. The intention is not to reflect the public and private institutions as sapping/Vitalistic. The comparison is merely for the reader to be able to see a comparison.

²⁸ It should be noted that the Department of Health has large offices in all the Provinces in South Africa.

stopped. The messages are, however, directly associated with the Department of Health, and tie in with the game of “No Money, No Fun, No Care, I’m Scary”.



Figure 13 Medi Clinic Head Office (Mediclinic).

As a comparable example, Fig. 13 shows a picture of the head office of a private healthcare organization, with hospitals in all the provinces in South Africa. As can be seen from the picture, the building is set in park-like surroundings, freshly painted, and has a welcoming entrance way.

4.5.2 Offices

The following picture (Fig 14) depicts the office of an administrative director in public health (picture on the left), and that of the owner of an HIV/AIDS rehabilitation clinic on the right.



Figure 14 Offices (Public/Private)

The public office is indicative of an organisation that does not allow free expression of the “inner child”. The office appears stark, with files, books, computers and phone neatly placed. There are no papers on the desk, and behind the sitting

person is a picture of the Premier of the Province The fact that this person does not have a picture of the President, and the Departmental head, is a sign of rebellion²⁹.

As a contrast, the private office appears to be a mess, with papers, books, fax machine and computer seemingly disorganised. Along the wall are numerous photographs of people that have attended the clinic, newspaper articles and reports about the clinic, and inspiring and motivating messages. Out of sight was also a beautifully arranged bunch of fresh flowers.

4.5.3 Hospitals

The following picture (Fig. 15) represents the exterior of the Karl Bremer hospital in Cape Town. This hospital is considered to be one of the better hospitals in the Western Cape in terms of service.



Figure 15 Exterior (Public Hospital)

Pictures of the signage were taken to indicate what is deemed important (i.e., Metropole region, Engineering, Nurses Home, Admin offices, and then only in-patients. Also, if the directions on the signs are followed (to out-patients/casualty),

²⁹ In most senior offices in this province, they have three pictures, one of the president, the premier, and their departmental minister. The pictures are also hung at different levels to reflect the status of the different people.

one is directed to a section of the complex where the buildings are un-inhabited. This may indicate further missing signs. The out-patients/casualty is in fact around the back of the building, beyond a parking lot (which is frequently filled with administrative vehicles).

The architecture of the building is typical of government buildings, and presents a stark look. Vegetation is mainly trees and grass, which could be deemed low-maintenance. Following is a comparable picture (Fig. 16) of a private hospital.



Figure 16 Exterior (Private Hospital)

The signage indicates mainly patient related directions (Trauma & Emergency, Hospital Reception, Doctor's Suites, Visitor's Parking, Medical Centres, and Crèche) and Deliveries. The directions are clear, and parking for visitors is allocated in the front, and around the back of the building. The prime areas for parking are allocated to doctors and emergency vehicles.

The building itself is constructed of face brick/concrete, but somehow appears friendly. The garden is landscaped, with plant pots in key areas inside and out.

4.5.4 Patient Admission/ Reception Areas

The waiting areas of the public hospital (on the left in Fig. 17), and reception area of the private hospital (on the right in Fig. 17) are indicated below.



Figure 17 Waiting and Reception of Public/Private Hospitals

As can be seen from the photographs, the public areas are stark, with bare benches placed in rows, wheelchairs off to one side, and a public telephone. The floors are dirty, the area is not air-conditioned and the roof has a wire coming out of it. Notices and pamphlets are pasted on the wall. Posters are about how to become an organ donor, containing STI, and about a sexual rights campaign. Instructions on the reception window detail what is required for admission (medical aid and public patients), and what patients cannot do (cell phones, smoking, etc). The receptionists sit behind glass windows, and have a microphone to speak through. Patients are called one at a time, and have to stand in front of the window.

In contrast, the private health reception areas are carpeted, with soft lounges, coffee tables and plants, and the reception area has chairs for sitting opposite the receptionist, with glass screens only between adjacent cubicles. The floors are spotless, and the doors are automatic, keeping the cool air-conditioned air in. There

are no instructions of any kind, or posters on the walls. There are some magazines available at the entrance, on a stand.

4.5.5 Passages

The following two pictures (Fig. 18) depict the passages of a large public health facility (on the left), and the private hospital (on the right).



Figure 18 Passage Public/Private Hospital

The floor on the left is clearly starting to break up, and has been like this for a while. The floors are plastic, and the painted walls are flaking. There are security cameras mounted along the passage, and these are also clearly not working. Along the walls are some notice boards, with notices about nurse events (it is a training hospital). There is limited signage along the passages.

The passage on the right is carpeted, vacuumed regularly, and has railings along the side for protection against wheeled beds and trolleys. The signs are clear and directions accurate (up-to-date).

4.5.6 Cafeterias

The cafeteria of the public facility (left in Fig. 19) is bare, noisy, and the tables were dirty, and there was rubbish on the floor during our visit. The shop itself also had the bare minimum of refreshments and food (no fresh juice or water), and catered mainly for toasted sandwiches and breakfasts. One had to queue at the counter, and collect one's own food.



Figure 19 Cafeteria (Public/Private)

The private facility (right in Fig. 19) is comparable to a coffee shop in a shopping centre and had a variety of fresh and prepared foods. The tables were regularly cleaned, and the floors mopped. The tables were serviced, and the facility had menus available.

4.5.7 Courtyards

The pictures in Figure 20 are of a Public Hospital shade garden (courtyard).



Figure 20 Public Courtyards

The garden was unkempt, un-watered, with leaves and rubbish blowing about, and plants dying. There was also no place to sit or rest, except on the walls of the plant beds. The area was closed off, and only opened during specific times.



Figure 21 Private Courtyards

The private courtyard (Fig. 21), on the other hand, was freshly swept, the trees and plants looked healthy, and there was garden furniture to sit on. At the time of our visit, the area seemed to be closed off (locked), although the area next to the coffee shop was open.

4.5.8 Ablution Facilities

At the time of our visit, the public facility ablutions (Fig. 22) were dirty, with water on the floor, the urinal inoperable, and dirt in the toilet bowl. Some of the toilets had no seats, and the door locks were not working. On subsequent visits, it was no better. There was also no toilet paper, soap or towels available.

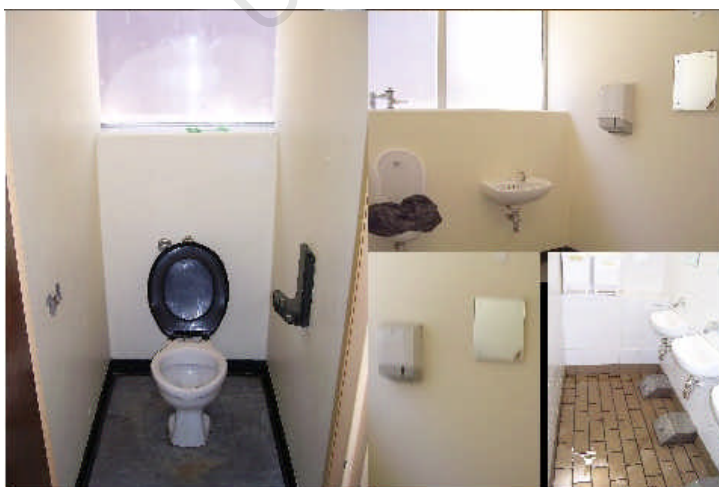


Figure 22 Public Hospital Ablutions

The private facility toilets (Fig. 23) was freshly cleaned, had an automatic air deodoriser, a toilet holder filled with paper, antiseptic soap in a dispenser, and roller towels. Behind the door was a cleaning schedule that was up to date.



Figure 23 Private Hospital Ablutions

4.5.9 Posters

Following are some examples of posters from the Public and Private facilities.

The public offices had posters (left in Fig. 24) detailing health promotion, and rape support. The Health Promotion poster explained the concept of health promotion with images, and slogans such as “Health Promotion is...”, Developing personal skills, creating supportive environment, healthy public policy, and community action. The rape support poster depicted a map of the province, with contact numbers and offices to support rape victims, as well as detailing certain information on rape and rape counselling.



Figure 24 Pictures/Posters (Public/Private)

The private institution (right in Fig. 24) had posters on HIV survivors, the reality of the ARV rollout in south Africa, letters of support, photographs of people that have visited the facility, and cards of well-wishing.

4.5.10 Analysis of Artefacts

The impression that one gains from looking at images of the Public Health Facility can be described as follows:

The buildings in general are imposing, and invoke a superior ego state of I'm OK, You're not OK. Together with this, the way that reception areas are designed, gives a message to the patients that they are not OK, and need to know their place. Being attended to at the reception also strengthens this concept, in that the patient has to stand in front of a glass window through which he or she has to give his/her details.³⁰ The messages sent by billboards, posters, and signs are ones of fear (Don't do this, Rape, HIV, etc) and intended to invoke a Child Ego state. The poor signage (or complete absence) is furthermore entrenching this ego state, as it adds to the Patient's confusion, and therefore speaks directly to his Child Ego state that is fearful, lost, and needs help.

The poor maintenance just shows a general state of neglect, but may be an invite or a way of the system expressing their need for more help, resources, etc. The fact that little effort is spent in beautifying and/or making the environment pleasant and lack of creativity with furnishings and posters shows an excluded Child Ego state.³¹ Stark office spaces are indicative of a Critical Parent ego state, and could also indicate "toeing the line" to the organisational standards in a predominantly parent (CP) ego state.

The shortage of provisions in the cafeteria, the unkempt gardens, dirty toilets, and deteriorating passages show a general lack of care, and is indicative of an organisation that has given up responsibility for itself and its own looks. It also shows that the organisation has lost the capability for assessing its own outer reality. This shows a lacking adult ego state in the organisation, as it does not have any feedback mechanisms in place to inform the rule creating parent ego state.

³⁰ The comparable example of the private health facility has the patient sitting at the same level as the receptionist, and no glass between them.

³¹ The child ego state is responsible for creativity and expressiveness.

4.6 Analysis Summary

This Chapter set out to provide an understanding of the PHS based on a Transactional Analysis perspective.

4.6.1 Context

The context for the research was the Public Health System, and specifically Provincial Health in the Western Cape, Gauteng, and North-West Province. People that were interviewed comprised IS specialists, Doctors, Nurses, Administrators and Patients. Twenty interviews were conducted over a period of eight months, and the recordings transcribed and summarised in this chapter.

4.6.2 The Body

From the material, the Public Health system was analysed into its constituent components, represented by the bone structure, vital organs, and skin.

4.6.2.1 Bone Structure

The bone structure comprises the formal aspects of the organisation, and a model of the Public Health system was drawn, and the different constituents analysed. These constituents are the Public Health System and its different levels, the Private Health system, Citizens/Communities/Healthcare recipients, and external agents.

4.6.2.2 Vital Organs

An analysis of the Vital organs was performed using the Heeks (2002) dimensions. From this it was found that the system is geared to respond to internal demands and threats, to the exclusion of its clients or patients.

4.6.3 The Mind

The mind of the Public Health System was examined by looking at the Sweatshirts, Rituals, Pastimes, Games, and Drama Triangles that emerged from the material.

4.6.3.1 Sweatshirts

The Public Health System is inclined to label specific functions, and use this label to represent the function, as well as the units within it. This sweatshirt was called "Label Me", and examines the way in which these labels are applied.

4.6.3.2 Rituals

In this section, the “Tea Ceremony” ritual was examined, where the partaking of refreshments serve both a social and psychological need of the system for acceptance, structure, and prestige.

4.6.3.3 Pastimes

A number of Pastimes were identified and analysed. The most important pastimes that were identified were “Clock Watching” and “Let’s Meet”. “Clock Watching” is a means for the organisation to remove the need to understand activities, and to merely focus on their presence. It also provides a means for people in the organisation to structure and control their and other people’s time. “Let’s meet” was identified as a pastime that allows the system to satisfy its need for recognition, control, and for acting out other games.

4.6.3.4 Power Plays

The Power Plays identified and highlighted are: “Paper Chase”, where the filling in of forms is used as a means of control; “Status Rivalry” where people compete with each other for visible means of recognition; “Flavour of the Month”, where the person, function, party that is in favour make all the important decisions; “The Boss Called”, where staff leave everything to respond to requests from more senior/important people; and lastly “Let’s Help”, where staff are very compliant, and eager to please.

4.6.3.5 Games

A number of Games were identified, and categorised into Patient and System Games.

4.6.3.6 Patient Games

The two patient games are “Pity Me”, and “I Can”. “Pity Me” tells the story of a Patient who needs the Public Health System to give her recognition, and self-worth. “I Can” tells the story of a HIV+ person who has taken up the responsibility of ensuring his own health, and tries to avoid interaction with the system at all costs.

4.6.3.7 System Games

The system game of “Pass the Buck” looks at the ways that the Public Health System passes on responsibility to different levels, sections, or units, or even to

Public Organisations outside of the Health System. “No Money No Fun...” looks at the ways that the system uses the challenges as excuses for non-performance, as well as the scary messages it is putting out. “GIGO” looks at the myopic focus of the Public Health System on input, rather than results.

4.6.4 Appearance

The section on appearances provides a pictorial overview of the visual aspects of the Public Health System in South Africa. These aspects are public buildings, offices, hospitals, reception areas, passages, cafeterias, courtyards, ablution facilities, and posters. These artefacts are then analysed using a TA perspective.

4.6.5 Conclusion

Even though the analysis has detailed the way that the PHS behaves, as well as the image that it presents to the public, it does not provide a coherent model as to why this is so, and how to deal with it. The following Chapter 5 will present such a model, and in Chapter 6, possible ways of introducing IS to positively affect the health of the organisation and its recipients will be explored.

“The nature of politics is a struggle or competition between competing forces, groups or individuals attempting to influence, appropriate or otherwise control the exercise of authority”

(Dean, 1999)

Chapter 5. Findings

The analysis of the Public Health System in Chapter 4, presented the system as a living organism, separated for the sake of analysis between the body and the mind of the system. The body of the system comprises the formal aspects of the organisation, and the mind is expressed in the informal aspects.

The focus of the analysis was primarily on the mind of the System, and how this is expressed and given meaning in the organisation, the environment, and particularly the patients that it interacts with.

The analysis has shown that the PHS is engrossed in a number of rituals, pastimes and games that have little or nothing to do with the reason why the PHS exists, i.e. to provide health services to the public.

A distinct difference was found between the formal and informal aspects of the Public Health System. The formal aspects comprise the written rules, structures, hierarchies, policies, and procedures that have been put in place to govern the organisation. The informal aspects comprise the way that people behave in the system, and the way that the system expresses itself through its appearance and its actions. In such an organisation, it is the informal aspects of the System that will dominate and affect the outcome of interventions.

The findings will integrate this analysis, and examine the PHS holistically, starting with Individual Health, progressing to the Public Health System, then by looking at these two as a system. It should be noted that the findings are presented firstly from the perspective of the client (Patient) of the Public Health System, without whom there would be no need of a PHS.

5.7 Individual Health

Based on TA life positions, there are four ways that an individual can interact with another. The predominant life position according to Harris (1995), is one of I'm not OK, you're OK, which in this research is represented by Patient2. The other life position represented in this research is that of I'm OK, You're not OK as represented by Patient1. This analysis does not exclude the other two life positions (the third alternative of I'm OK, You're OK will be explored later). The life position I'm not OK, You're not OK is clearly not beneficial to either party, and will not be addressed in this research. Based on the material collected in the interviews, one can formulate a

positive, and negative self-reinforcing cycle, depending on the life positions of the Patient1 and Patient2.

5.7.1 Vitalistic Personal Health System

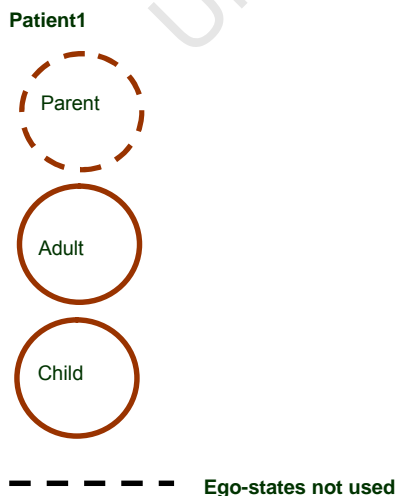
Despite being infected with a terminal (at the moment until a cure is found) illness, Patient1 realised that he is responsible for his own health, and cannot depend on the system to help him. This may originate from early life experiences where he did not get any support from his parents/surrogate parents. This may reflect a stance of I'm OK, and You're (the system) not OK. Patient1 has also realised that he can teach others infected with HIV/AIDS about how to live healthily and longer. The positive or vitalistic cycle can be outlined as (Patient1, 2006):

- If you are spiritually happy in your own life.
- If you are positive in yourself, and positive about others, it brings a positive energy around you.
- Really go out and look for love and friendship, and go out and try to make a difference.
- Look for the resources that you as an individual need to keep yourself happy.
- You become happier with yourself.



Figure 25 Vitalistic Health

The outcome of this self-reinforcing system is that as the Patient's health improves, he in return improves his environment, relationships, etc. However, because the Patient's perspective of the Health System is Not OK, he has reduced contact/interaction with the system as far as possible.



“The Health system is pathetic (although you) do get some caring systems” (Patient1, 2006). Based on the analysis, it indicates that Patient1 has an excluded parent ego state as shown in the diagram.

Figure 26 Patient1 Ego Diagram

This means in reality that Patient1 will remain outside the system, until he reaches a stage in the illness that forces him to interact with the system.

At this point, he may become totally dependent on the system for as long as he lives. Surprisingly this thought motivates him further to stay healthy (and out of the system).

5.7.2 Sapping Personal Health System

Patient2 on the other hand has had numerous interactions with the system, and despite the fact that the system treats her poorly; she goes back to the system. Evidence points to the fact that she is basing her decisions from an I'm not OK, You're OK life position. This means that she will endure the hardships (such as waiting in queues, poor service by nurses and doctors), as she believes that the system is justified in its actions.

The vicious cycle that Patient2 has seen in other people dying of AIDS, can be described as follows. After being diagnosed with AIDS (or any terminal disease such as cancer, leukaemia, etc.), the patient becomes depressed and starts thinking that:



- They are so sick that they cannot do anything for themselves (helpless).
- They have no more family and friends.
- No Support.
- Loses touch with him/herself, God, and life.

Figure 27 Sapping Health

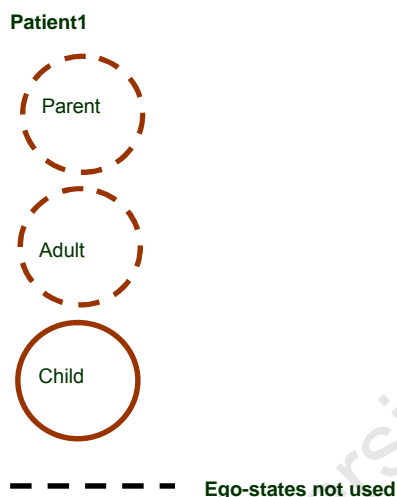
This continues in a vicious cycle until the Patient eventually decides that there is no love or support for her, gives up altogether, and goes home and dies; and that this becomes their reality (Patient1, 2006).

This process is further extended on a biological level (and substantiated) by Orr & Patient, (2004) as follows: The perception of no control → Hurt/wounded/helpless → Brain (Hypothalamus) secreting CRF (corticotropic releasing factor) → Pituitary gland releases ACTH (adreno-cortico-tropic hormone)

→ Adrenal Cortex releases Cortisol → Immune system is suppressed (Suppresses T-Cell activity and antibody production) → Reduced Health.

What this shows, is that the way the Patient perceives a disease, situation, or treatment, has a direct bearing on the way her body reacts. This is because the body can only react on the information that it is provided, and if this is one of fear, then the body reacts accordingly (Chopra, 1989).

The patient also appears to be willingly giving up control of her own health, and expects the system to take care of her. This indicates that Patient2 is remaining in a child ego state of being sick and needy. This leaves her with no or limited ability to make rational judgements from the Adult ego state, or of putting the necessary controls in place (Parent) to prevent illnesses.



This dependency on the Health System feeds this vicious cycle that Patient2 is involved in, and exhibits a sign of someone crying out to provide the Parent/Adult structures in their life.

Figure 28 Patient2 Ego Diagram

5.8 The Public Health System

Based on the analysis of the Vital Organs in Paragraph 4.3.2, it can be seen that the system is more concerned with managing aspects that ensure its own continued survival, and protecting the scarce resources that are available.

In a system with scarce resources, “certain people who have more power will use that power against other people to take away their fair share” (Steiner, 1974). In the Public Health System, this is evident in the Power Plays such as “The boss called “, “Flavour of the month” and “Paper Chase”. In extreme cases these Power Plays lead to Games such as “Pass the Buck”, or where the system plays helpless in “No money, No Fun, No Care, I’m Scary”. It appears as if decisions are made based on power and control.

Having strict rules on working hours, “Clock Watching”, and around beverages in “Tea Ceremony”, shows a deep-seated need in the organization to structure its time and environment.

It is apparent from the analysis that decisions that are made in the system are made through the perspective of how it can benefit the individual, the group, or the system, and not necessarily that of the Patient or Healthcare recipient. It also seems as if the system attracts people that want to please (“Let’s Help”) which may be signs of an adapted Child (AC) or a life position of “I’m not OK, you’re OK”.

It is also evident that the system does not have the ability to care for or nurture itself, its environment, and others. The general neglect found in the washrooms, gardens and corridors point to this. It is also shown by the lack of focus on the emotional and physical aspects of individuals’ health. What is clear is that the system cannot provide nurturing or care if the people in the system have not been exposed to it.

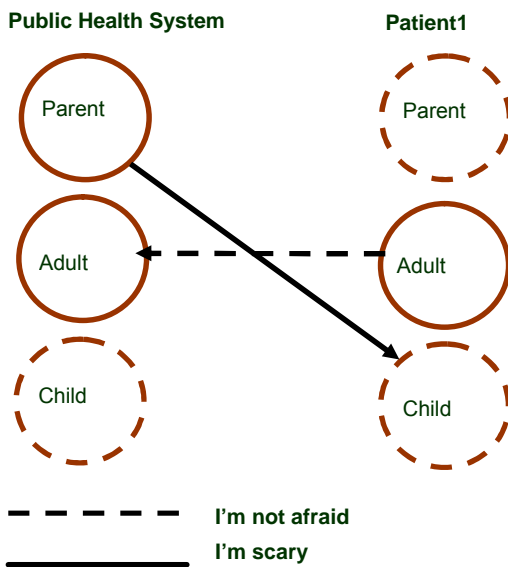
“As a result, people don’t want to know (that they have HIV) because there is no caring for them” (Patient1, 2006).

The types of messages that the system is sending out are ones of the system being OK, and others (patients) not OK. It also indicates that the system is acting in a superior or CP stance. The system effectively discounts individuals’ ability to look after themselves.

Power Plays such as “Let’s meet”, “Status Rivalry” and “Tea Ceremony” show a deep seated need to feel important, but also show that these psychological needs are not being met. This shows evidence of an emerging Child ego state or the inability of the system to express its natural creative Child ego state. These needs are expressed in terms of boasting or comparisons in order to achieve recognition.

All these aspects show that the system has a strong P, weak A, and excluded C. It is possible that the system is absorbed in all the games and pastimes as a mechanism to fill the gap in its ego state, by completing the child ego state. Examples of where individuals or groups have tried to make a difference, and show their creative side, have been neglected or actively discouraged. These are things such as the painting of the ward walls, or the maintenance of the shade garden.

5.9 Discounting and Symbiosis



By integrating the egogram of the Public Health System and that of Patient1, the following diagram is obtained.

What is evident from this combined egogram is that regardless of the messages that the Public Health System is conveying, Patient1 responds in an adult manner.

Figure 29 Discounting in the Public Health System

This shows the Public Health System as having a need for power or control, or a dependency of the patient. The Patient, however, is determined to remain independent of the system, and discounts the ability of the system to aid him. When one combines the diagnosed ego states of the Public Health System, with that of Patient2, the mutual dependency is immediately apparent.

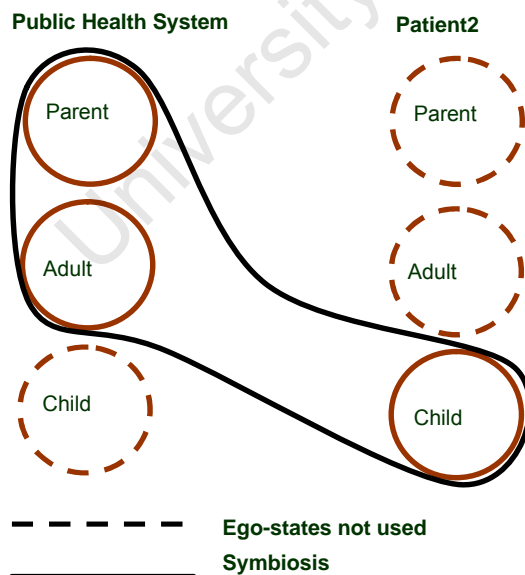


Figure 30 Symbiosis in the Public Health System

On a social level, patients that are not ill, or know how to maintain their health, and heal themselves, have no need for a Public Health System. This is evident from

the combined ego-grams of Patient1 and the Public Health System. On a psychological level, however, from the outline of “Pity Me”, it is apparent that Patient2 needs the Public Health System to be Parent to her Child. “Pity Me” clearly shows how Patient2’s games and invites, play into those of the Public Health System. Patient2’s feeling of inadequacy and worthlessness (Not OK) complements that of the Public Health’s sense of Power and superiority (OK).

The system is therefore dependent on the patients to sustain it on a social level, and to complete its ego profile on a psychological level. The patient is dependent on the system to take care of him/her, and complete his/her ego state. This dependency is called symbiosis.

5.10 Findings Summary

5.10.1 TA Perspective of the Public Health Systems

A TA perspective presents the PHS as a living organism comprised of a body and mind. This research focused primarily on the mind of the PHS.

5.10.1.1 The Personal Health System

The Personal Health System was categorised as Sapping or Vitalistic. A Sapping system becomes a vicious cycle of neediness, sickness and helplessness that ends up in disease. A Vitalistic system becomes a positive self-reinforcing system of self-sufficient, fulfilled and healthy individuals.

5.10.1.2 The Public Health System

The SA PHS appears to be more concerned with ensuring its own survival, and managing its scarce resources. It is also evident that the system does not have the Adult awareness to manage and care for itself. This is evident in the level of neglect found in Public Organisations in SA.

The power plays and games evident in the PHS show that its deep-seated needs for expressiveness and creativity are not met.

5.10.1.3 Symbiosis

It was further shown by the analysis that the needs of the individual (of being taken care of), and that of the PHS (gaining recognition, and influence) are mutually beneficial. These complementary needs lock the System into a self-reinforcing cycle.

5.10.1.4 Conclusion

Chapter 5 has shown how the PHS interacts with its clients, maintaining the state of symbiosis. Chapter 5 has not however presented ways of strengthening the PHS, or of unlocking this symbiosis. Chapter 6 will attempt to present suitable interventions that are matched to the mind of the PHS.

“The value of insight may be clearly seen when chaos ceases”

(*Tao Te Ching*, 2006).

University of Cape Town

Chapter 6. Recommendations

Understanding the mind of the PHS is a worthwhile goal in itself. In addition, this dissertation set out to understand how to interact with the PHS, and how IS can contribute positively to the health of the PHS and the individual. The following Chapter will explore some recommendations based on the findings of this research.

6.11 Healing the Public Health System

The aim in TA is to achieve an integrated ego state, i.e., to get all the ego states working in both parties (Temple, 1999). It therefore becomes important to encourage and nurture the missing Parent and Adult ego states in the Patient, and the excluded Child ego state in the Public Health System.

The challenge in achieving this is that equilibrium has to be achieved in the system, and that both the Patients' and the Public Health Systems' needs are being met. Further challenges are that these scripts become entrenched over time, and that role players are not aware of them.

The game-playing is evidence of the PHS need to have a functioning child. Unfortunately these needs are substituted with other ways of getting strokes, often negative.

6.11.1 Preventing Games and Power Plays

A healthy Public Health System would be one where inauthentic feelings, Rackets and Games are replaced by authentic feelings, requests, and responses. It would also be a System where the ability of its clients to heal themselves is not discounted - a System where permission is given to all parties to be responsible, and where the way the System treats its clients gives them permission to be OK.

"An ideal hospital would be a comfortable motel with 'play area' for the Child, surrounding a clinic building devoted to activities designed for achieving autonomy of the Adult. The nurses would not wear uniforms or serve as Parents to the patients. Instead, nurses in street clothing would apply their skills and training to help each individual learn the identity of his Parent, Adult and Child" (Harris, 1995).

Stewart and Joines (1987:251-258) have identified a number of ways of preventing games and inauthentic responses. These can be grouped according to

awareness of self and others, using options, catching the opening con, dealing with it later on, going for the positive payoff, and disowning negative payoffs.

6.11.1.1 Awareness of self and others

As an Adult, one is responsible for one's own feelings and responses. One cannot therefore change or try to change other's behaviour or responses. What one can do, however, is to become more sensitive to one's own reactions to situations, and change the resultant behaviour.

If one realises that one has been involved in a game, one can easily change the situation by responding in a different way. Karpman (1968) outlines four conditions that need to occur to affect a successful prevention of Games and Power Plays.:

- *One or both ego-states must actually change*
- *The transaction must be crossed*
- *The subject must change*
- *The previous topic will be forgotten*

During an interaction, one needs to be constantly aware of the psychological messages, and the ego states of oneself and the other persons.

6.11.1.2 Using Options

An option is a way to either use a complementary transaction, or a crossed transaction to change one's own ego state or another's response. An example would be, if a doctor issues an instruction such as "Undress", to respond in an adult manner by saying "I am uncomfortable undressing; is there any other way that you can examine me?", rather than going into an adapted child state, and undressing against one's will. The best response is normally to respond with authentic feelings and responses. Using a positive ego state response as an option is normally best in most situations (Stewart and Joines, 1987).



Figure 31 "The Buck stops here" Truman in Wikipedia (Wikipedia, 2007:The_buck_stops_here)

A classic response to stop the “Pass the Buck” game would be to use a sign such as that used by US President H.S. Truman stating “The Buck stops here”.

6.11.1.3 Catch the opening con

A game almost always starts with a con. It becomes important therefore to look out for these cons or invites. Being aware of one’s self and others, and one’s feelings, it becomes easier to detect them. Once the con is detected, one can respond by confronting the discount directly.

The best time to prevent a game is when it starts. When one is invited to a meeting, and one knows that these meetings always start late, or that people do not attend, it is best to raise the issue when invited, rather than by attending the meeting, and then having to wait. This indicates an Adult-Adult response to the Parent-Child invite. This is an example of using an option to diffuse the game-playing behaviour.

6.11.1.4 Deal with it later on

If one realises that a Game is in progress, and that one has missed awareness of the opening sequences, one can change the way one feels, or responds. One can prevent having the negative-feeling payoff by recognising that one is in a game, and disowning the negative payoff.

One can also go directly for the positive payoff. If one wants to have more free time, rather than having patients queue early in the day, so that one can finish early, ask for/lobby/motivate or do whatever changes to the system to allow for free time based on outcome/performance. The psychological trap that prevents people from doing this is that the perceived difficulty of changing the system is greater than staying in game behaviour.

6.11.1.5 Replacing Game Strokes

Once game-playing ceases or reduces, it becomes important that this need for negative strokes is filled with positive strokes. These strokes may be of lesser frequency and/or intensity, but are far more satisfying in the long term. The way to do this is to try and understand what authentic child need is satisfied by the game playing behaviour, and then rewarding oneself with it. For example, in the pastime “Tea Ceremony”, if the behaviour is in order to boast, and gain recognition, one can gain the same results by realising this need, and satisfying it directly. For an

organisation such as the PHS, this can be done by instituting awards and other means of recognition.

6.11.1.6 The use of contracts from a TA perspective

Essential for interaction with the PHS is the TA concept of contracts. This can be used as a basis for establishing Adult-Adult agreements on any interaction.

A TA contract is defined by James and Jongeward (1996) as “*An Adult commitment to one’s self and/or someone else to make a change*”. Essential aspects of such a contract according to Stewart and Joines (1987) are that it should state:

- *Who both parties are*
- *What is it that they are going to do together*
- *How long it will take*
- *What the goal or outcome of the process is*
- *How they will know that they have achieved this*
- *How that will be beneficial to the client*

Steiner (1974) adds that there are four requirements for such a contract:

1. It must be based on mutual consent
2. Its compensation must be explicit, and agreed to
3. Both the client and the service provider must be competent to carry out what has been agreed.
4. The contract should be legally sound, and comply with ethical principles of professional practice.

The purpose of establishing such contracts is to prevent or avoid game playing behaviour or manipulation, and to enter into an Adult-Adult agreement.

6.11.2 For individual health

It may be extremely difficult to make changes in the system, because of the symbiosis of the system (as in the case of Patient2). Key to creating an environment where the system and the patient may become interdependent (Covey, 1992), is for the patient to take back responsibility for his/her own health. This means that people need to become more aware of factors affecting their health, and when confronted with an illness (healing experience), learn as much as possible about the symptoms, and try to gain an understanding of why they are having the experience.

“I think we must make people more aware that they are responsible for themselves. These are not children...You don’t treat adults like this.”
(PrivAdmin) 11:15

In the case of Patient1, it becomes more important to develop the positive Parent and Child aspects. To develop his Parent, it means a continued focus on nurturing and caring for himself and others. It also means implementing regular programs of testing his T-cell count, and monitoring his reactions to treatment.

It is also important that Patient1 focuses on providing stability in his environment such as a place to stay, regular meals, etc. Developing his child would mean developing his creativity through games, art or other means.

For Patient2, it becomes important to develop her adult, so as to be able to assess her own and external environment. Establishing a routine of regular health checkups and of maintaining her own record of visits, treatments, medicines, meals, and other health statistics such as weight, cholesterol, blood pressure, etc., are all mechanisms to strengthen her adult ego state.

These two examples indicate, on a generic level, interventions that can be sought by individuals that are dependent on the Public Health System. People are different, however, and will require different ways of strengthening their independence.

Awareness of health issues and developing responsibility also starts at home as explained by PrivAdmin. It is important for parents to encourage their children to develop their self-esteem, independent thinking, and realise their role in their own health. Unfortunately, people appear to be only interested in health issues, only after it affects them personally.

The important aspects of these interventions are that patients need to have the desire to make these changes in their own lives. Unfortunately this desire often appears too late, when illnesses are too far advanced in their lives. In some cases, the payoff that the patient gets from being ill exceeds that of being healthy. This causes a deadlock, and will only strengthen the sapping cycle.

6.11.3 How to improve the System?

In the Literature Survey in Chapter 2, a number of alternative strategies were proposed by various authors. Their appropriateness and application will be expanded upon based on the TA perspective of the Public Health System in South Africa. Any intervention in the Public Health System that encourages autonomy will be beneficial. Again, as with the individual, the system must want to make these changes, and gain greater psychological benefit in doing so.

A first step in this direction could be to make hospitals and clinics responsible for their own budgets and revenue, and allow them to expend the revenue in the facility (instead of depositing it back into the provincial funds). A further, more extreme measure may be to establish hospitals and clinics as completely independent services (much like private institutions) that provide services to the government, as advocated by Oliviera-Cruz et al. (2003). More use can also be made of independent facilities, the establishment of public-private partnerships, or NGO to become involved in interventions and the delivery of Public Health services.

In the beginning we talked about public and private partnerships, setting up these things, Government funding maybe and a private providing and using capitations or whatever and it didn't happen. (Doctor1, 32:25)

Other means of encouraging independency is by enlisting the help of the community in maintaining and managing awareness of health issues.

"We need to focus on the community to bring a different approach to HIV/AIDS or other health (Patient1, 2006).

Ways of increasing the client's (healthcare recipient) independence would be to remove the need for referrals at different levels and treat people wherever they present themselves. A further means of encouraging independence would be to establish a Public Health Medical Aid card, where all citizens are issued with a medical aid card with which they can access the free basic services (Dror, 2005). This would give them the ability to choose which facility to attend, or even the possibility of visiting a private clinic or doctor at reduced rates. Any additional or specialist services would need to be considered on the ability of the patient to pay for these services.

They were only interested in the national social health insurance system, which they are now working on, but whether that will really make a difference,

I don't think so, I don't know because does the provider still have the same incentives at the moment and I think that needs to change. (Doctor1, 33:05)

It is also important to increase the public's involvement in the system, not only through public participation forums, but through means of placing the public on executive levels of the system as representatives.

Further means would be to make patients responsible for the maintenance of their own medical records. Other strategies to focus on would be providing the patient with more complete information or communication about their visits, diagnosis, and treatment options.

Providing adequate and relevant health information to the public, maybe at an earlier life stage, also becomes important (Better Health in Africa). This could be by introducing aspects of healthy living into the education system (perhaps as part of the "Life Skills" curriculum).

Encouraging health by means of a reward system can also be looked at, where patients benefit from regular checkups, screenings, maintaining weight, and regular exercise and eating healthily, much like the Vitality program developed by Discovery Health. Benefits for members on this program are, cheaper flights, discounts at stores, movie theatres, etc.

The Public Health System could also introduce rewards for being healthy (and not placing a drain on the system), by introducing a bonus payout or tax break, reduced cost for the use of public facilities such as national parks, or discounts on public transport such as trains or buses, or even special queues for patients that have achieved a certain level of health.

Another aspect to focus on that will aid in integrating the ego states of the Public Health system, would be to encourage the development of the positive aspects of its Child ego state. Immediately apparent aspects of increasing recognition would be to increase the stroking/reward system. Current performance systems aim more to encourage discipline and punishment. Types of stroking that may work in the system would be weekly, monthly, and annual awards for staff members. It is important, however, that this does not become another means of gaining status or control, and it may be best if nominations and awards are made by peers. This can be implemented on a national basis for all levels. It is important to implement the concept of awards from a senior level, as certain allowances will need to be made.

Awards could take the form of anything from a floating trophy, to time off, a more important parking space, free coffee/tea, prizes or even a paid-for weekend trip. It is again important to note that it should not become a means of people competing or vying for each other to get these awards.

Other ways of strengthening the Child would be to have regular team building sessions, off-site meetings, and involving all levels of the system, including the public when developing strategies and plans. Freedom of expression should also be encouraged, budgets made available for improving facilities, and decorating them in a style that is selected by the staff at the facility.

An important aspect to realise in all these recommendations is that the beliefs (scripts) of the Public Health System will need to change in order to be able to accept and benefit from an improved Public Service. It is also important that people are encouraged to be responsible and take ownership of their environment. Initially this may mean more duplication and redundancy, but in the longer term may result in a more effective Public Health System.

6.12 The role of Information Systems

Information Systems are able to assist Health Systems in achieving their strategic objectives, managing their operations, and delivering an effective service (Sheaf and Peel, 1995).

"We need to work with Health Information Systems and find out where there is a problem" (Doctor1) 1:40

By looking at the SA Public Health System from a TA perspective, it is clear that it is highly likely that IS implementations will be swamped by the pastimes, games and power plays that are present in the system.

6.12.1 Analysis of HIS interventions

The concept of TA states that one needs two or more parties to set up a transaction. The easiest way to prevent a game is not to participate. If, however, one does participate, it is important to try to avoid game-playing behaviour.

Information Systems are introduced in the Public Health system to solve a particular problem - whether it is to assist in administration, the admission of patients, keeping track of patient records, or even maintaining clinical and prescription information. This "problem" is either identified by the vendor, or the host

organisation who asks vendors to respond with a solution. From a TA perspective, this can be seen as an invite for a rescue.

Once a suitable third party is found to solve the problem (rescue the situation), the engagement rules are laid down. If at this point the third party accepts the gauntlet, and is discounted by the host organisation, then the basis for a drama triangle is set up.

The outcome for such a drama triangle is often a battlefield, with casualties ranging from complete systems, to vendors, and even staff members. In many cases the software is blamed for the failures. In other cases it is the vendor who is at fault. In some cases it may even be the Public Health Officials who chose the wrong system, or failed to manage the implementation.

6.12.2 Application of HIS

The use of ICT to enhance health service delivery appears sensible. In most other industries such as financial, commerce, etc., ICT has greatly enhanced the service offering.

For example, one can use barcodes on files and medicines in order to speed up the patient registration and issuing of prescribed medicines (ISAdmin3). One can have a better stock control system, and improved tracking of patients (where they visit, how long they wait, and what they are visiting for) to assist in public health delivery (Admin1, 2006). One can even extend the software to include the coding of diseases (ICD10 codes) in order to track health indicators (CIO1, 2006). The latest trend is to provide patients with remote diagnosis and intervention (telemedicine) and/or to increase the patient's capacity to inform himself better (E-mail, Internet such as WebMD, Mindset Satellite Health Channel, etc.).

6.12.3 Sick Information Systems

In reality, the majority of attempts at introducing ICT in the Public Health System are met with challenges (Hedberg, 2003), and fail to enhance the health of its recipients. When one analyses the Health System in terms of the Games and Pastimes, it becomes clearer why this is the case.

Information Systems are acquired and implemented based on the characteristics and needs of the Health Administrators. These needs reflect the psychological needs for recognition, control, empire building and games as seen in

the previous chapter. Actions are geared towards pro-creating the system – not necessarily to improve the health and wellbeing of citizens. (Doctor1). HIS tend to support this mode of delivery, for example, the implementation of the monitoring system for anti-retroviral treatment (Fernandes, 2004) or the use of spatial information system in the management of HIV/AIDS (Busgeeth and Rivett, 2004).

Games such as “Paper Chase” and “Pass the buck” result in delays of processes, moving the blame for failures, displaced responsibility, and no or limited ownership or champion of software systems. It is highly unlikely that any process requiring a signature in Public Health has any chance of success as an electronic system. Power Plays such as “Flavour of the Month” will result in software being replaced, blamed for failures, and failed adoptions.

Games such as GIGO will result in an increased focus on collecting information about activity and input, and minimal focus on result or output. Examples of these are increased focus on collecting statistics such as number of clinics built, patients treated, beds available, etc., in the public health system. It will also result in increased compliance measures being implemented, regardless of the consequences.

It also follows from the way the system is structured (line of command), that software implementations will have to follow such a structure, i.e., National, Provincial, District, and Clinic. As a result of the pastime of “Label Me”, it may lead to software solutions such as “National Health System” (See the “National Health Care MIS (Khotu, 2001)), “Provincial Health System”, “District Health System” (See DHIS in (Harris, 2004; Hedberg, 2005)), and “Clinic Health System”

Furthermore, it is highly unlikely that information systems will be implemented that manage oversight or accountability of the Public Health System as advocated by Allan (Allan et al., 2004). It is more likely that the Public Health System adopts software that ensures compliance from providers and patients, such as that developed by SimPill (<http://www.simpill.com/>), which measures compliance of people taking their pills according to a prescribed schedule.

“The Doctor doesn’t have to send the Nurse in every day to see if I am taking my antibiotics...I want to get better...Do you want to get better or don’t you. It’s as simple as that” (PrivAdmin). 11:40

This mechanism only further entrenches the symbiosis with the patient in that it remains the system's responsibility to remind the patient that he/she has not taken his/her medication.

It is also unlikely that one will see a proliferation of systems providing information to the public on "politically sensitive" campaigns such as the rollout of ARV, or the spread of Malaria, etc.

6.12.4 Vitalistic Information Systems

For information systems to aid in the health of the individual and the organisation, they need to encourage responsibility, accountability, and to focus on developing or complementing the ego states that are lacking in the respective parties. This does not mean that the IS should take over the role of the Child ego state in the Public Health System. Neither does it mean that it should replace the Parent ego state for Patient2. It merely means that IS, and its introduction, should invoke a response from the System that will bring out the Child ego state, and for Patient2, the Parent/Adult ego state.

For the individual such as Patient1, they need to be able to complement the Parental aspects such as structure, consistency and caring. For Patient2, they need to invoke and develop the Patient's Adult ego state, such as providing the ability to interpret and understand themselves and their environment, as well as developing their capability to take responsibility for their own health.

6.12.4.1 Adult-Adult IS

The ideal scenario for the introduction of vitalistic HIS would be based on the fourth life position of I'm OK, You're OK. This would entail information Systems that treat the organisation, user and recipients as adults or equals.

When examining the vitalistic aspects from the case studies in Chapter 2, one will see that they are mostly based on an A-A paradigm. Examples of these are:

- Providing an enabling context – This respects others ability to help themselves.
- Care for patients – It shows a nurturing perspective which is again a characteristic of an Adult ego state.

- Decentralised decision making – accepting other’s ability to make their own decisions. This stems from an I’m OK, You’re OK perspective which is founded in the Adult ego state.

Based on this improved understanding of how to engage with an organisation, most interventions success could be analysed prior to engagement, based on the ego states that are transacted from.

6.12.4.2 Patient Centric Information Systems

As was identified previously, the development of Patient IS should be to encourage, complement or invoke their Adult, or Parent ego states. This means IS for patients should provide a means to use their Adult ego state to question and explore their own health. Examples of this are expert systems such as provided by WebMD (*Web MD*) where people can explore their own symptoms, and gain an idea of possible causes and treatments (See Figure 32).

Other options are patient self-service, patient self check-in, health education kiosks, and automated blood-pressure test stations. It should be remembered that the implementation of such systems is based on an Adult-Adult ego state, where the ability of Patients to look after their own needs should be entrenched.

In South Africa, there may be sceptics who may say that there are patients who won’t be able to use such systems/devices. This may be true, but their abilities should not be discounted. Mobile phones have penetrated a significant portion of the SA market, which means that most people are able to use modern technologies, even if it is just to make a phone call.

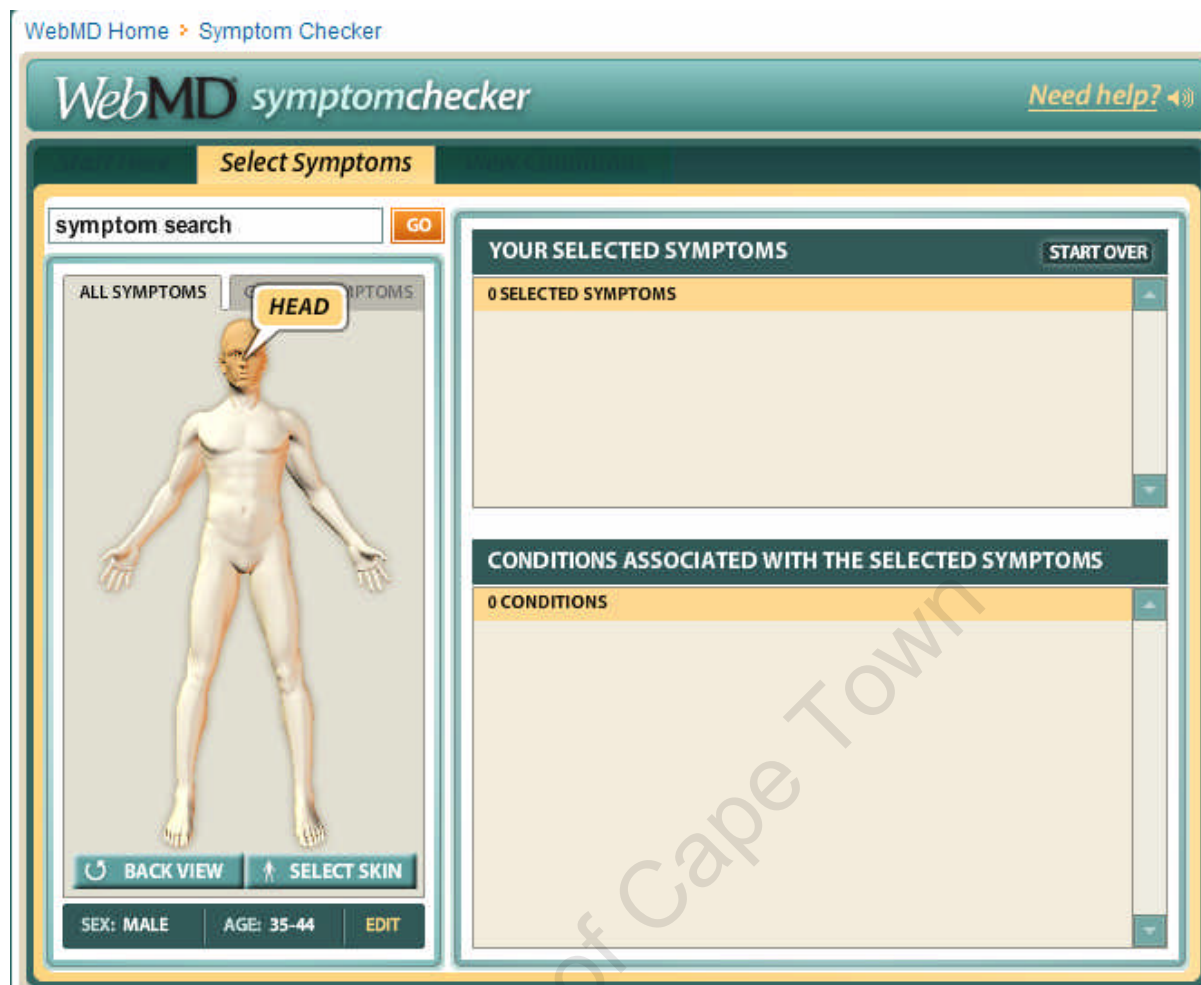


Figure 32 Symptom Checker (Web MD, 2007)

Other mechanisms should focus on providing patients with the ability to manage their own health records, reminders (for visits, taking of pills, etc). Mobile solutions are already available in first world countries that do just that, such as CapMed's icePHR (in case of emergency Personal Health Record) (CapMed ICE PHR, 2007). This solution allows patients to keep a mobile version of their health information which medical professionals can access online. They also offer a version on a USB flash called the Personal HealthKey which contains one's own health record that can be taken to medical facilities, and viewed on a PC. These solutions contain information such as personal contact information, allergies, conditions, emergency / medical contacts, visits, medical images, immunisations, etc.

6.12.4.3 Public Health Information Systems

Because the analysis of the PHS has indicated a deficiency in its Free Child, IS should focus on developing the creative and expressive side of the organisational child in the workplace.

This means visual or artistic technologies such as imagery or handwriting should be used. Digital cameras can be used for most of the disciplines in health (ophthalmology, surgery, dentistry, etc.) as well as for remote diagnosis, patient education, observation, etc.



Figure 33 Medical Tablet PC (*Motion Computing*, 2007)

Digital pens or inking technologies can be used to replace the traditional pen, and can be used to write prescriptions, ward rounds to note patient vital signs, for surveys, emergency documentation, etc. The benefit is that the writing is stored digitally, and can be archived and transmitted electronically.



Figure 34 Digital Pen (*Logitech*, 2007)

The PHS will always require signatures to approve processes (See “Paper Chase” and “Pass the Buck”). Modern technologies that allow the use of digital signatures, and writing with a digital pen should therefore be encouraged.

Imaging routing and storage systems can be used to manage this flow of images, and linking these pictures and digital scripts to patient records.

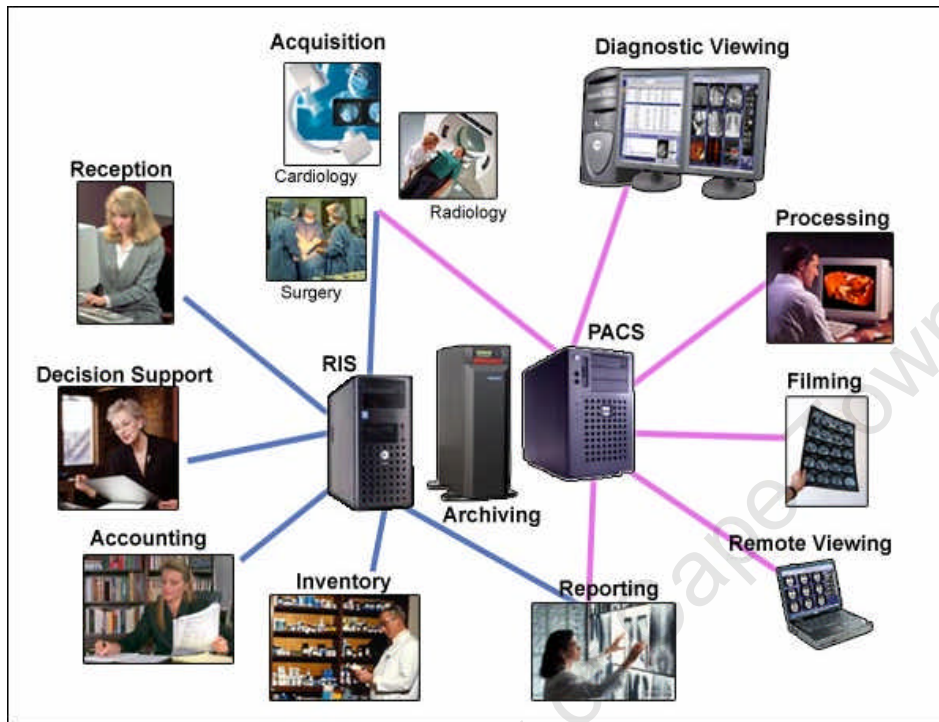


Figure 35 Picture Archiving and Communication System (*Millenium Technologies, 2007*)

Integrated imaging and tablet computers can be used to store and manipulate diagnostic imagery and laboratory results. Touch-screen terminals can be deployed to work-stations to improve the tactile interaction with such systems.

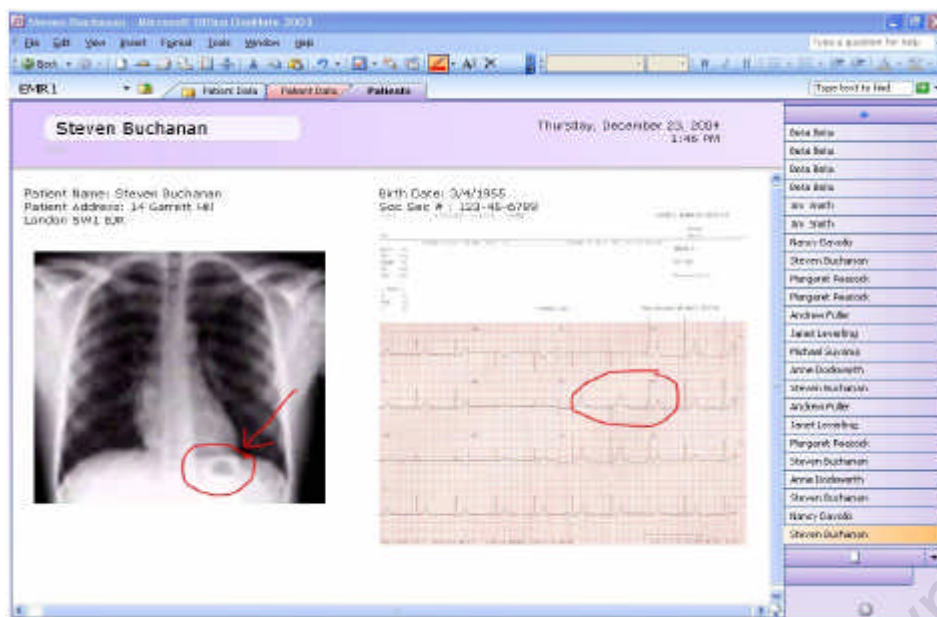


Figure 36 Microsoft OneNote EMR Toolkit (Ablet Factory, 2007)

Mobile technologies can be used to interact directly with patients for things such as notifications (laboratory results), treatment information, and reminders.

Lastly, media such as radio and television should be encouraged to provide free-to air programs on health matters, where the public can phone-in or write letters to discuss their health issues.

6.12.5 Approach to implementing Vitalistic HIS

When implementing such IS, one should constantly be aware of the character of the PHS in which one is implementing these solutions.

If one continues with the analogy of the PHS as a living system, then one can liken the introduction of a new technology or system to transplanting or introducing a foreign object into the System. If this foreign object fits the mind or DNA of the System, it has a higher likelihood of being absorbed by the System. If there is a mismatch, then it will more than likely be rejected and act as a drain on the System. What is required is to modify the system to “appear” like the PHS DNA, therefore making it easier to adopt or absorb the new IS.

6.13 Recommendations Summary

6.13.1 Healing the Public Health System

In order to heal the PHS, this symbiosis needs to be broken by strengthening the autonomy of both parties. For the PHS it means the development of its positive

Child capabilities, and for the Client it means the development of its Adult and positive Parent capabilities. This can be done by establishing more independent facilities, a Public Health medical aid, giving the client more choice, serving the clients at the point of presentation, and increased collaboration with non-government organisations (NGO) or Public Private Partnerships (PPP) such as Folateng.

For the client, it means the development of independent health programs, the establishment of regular health checks, and the provisioning of a stable social environment.

Games can be prevented through the development of self-awareness, and of addressing discounts when they are detected. Negative stroking should be replaced with positive stroking, and clear Adult-Adult agreements need to be concluded.

6.13.2 The role of Information Systems

IS should be applied not to “rescue” a situation, but to strengthen autonomy in the system, and to encourage integrated ego states. Key interventions in the PHS should develop its creativity and expressiveness. Solutions such as medical imagery and digital cameras, touch-screen computers, barcodes, etc. will aid in this.

For the individual, the focus should be on patient-centric systems such as, individual Patient Record Systems, self-service kiosks with coded expert systems, and notification and information systems based on mobile technologies.

Care should, however, be taken when implementing such systems, so that the pathology of the System is matched and integrated from the start.

6.13.3 Conclusion

Now that this research has described the mind of the PHS, looked at how one can intervene with IS, all that remains to be analysed is why the PHS is still struggling to make a difference in the organisation and the lives of individuals, as well as where or who should be responsible for making the changes to the System. The conclusion aims to establish just that, as well as to show the uniqueness and value of this research.

“Play is the highest form of research”
(Attributed to Einstein)

University of Cape Town

Chapter 7. Conclusion

The objective of Chapter 7 is to assemble the entire body of research that was conducted, as well as to provide a meta-perspective of the findings and recommendations based on the TA methodology.

7.1 Understanding the Public Health System

The literature has shown that the Public Health System is struggling to deliver on services, and that the current use of IS is failing to improve the health of the organisation and its recipients. Ad hoc fixes to the IS are not going to aid the organisation. Firstly, one needs to truly understand the organisation, and then, and only then, can one intervene accordingly, using appropriate IS, to assist where required. Existing research on IS in the Public Health System (PHS) has highlighted the challenges, issues and concerns in the system, but has not identified a way to change it.

Even though the health system is centrally administered, distinct differences are evident between the different levels of the health system, and even amongst institutions on the same level. The PHS essentially functions as a heterogeneous system regarding rules and regulations, functions, roles, processes and post levels. On a psychological level, however, a number of traits appear that are consistent across levels, provinces, and functions. These traits are evident in the psychological moves that individuals in the organisation make in order to gain recognition, status, and psychological advantages. In order to understand the underlying actions and behaviour of the PHS, an approach of TA was used.

7.1.1 The Application of TA in this research

TA allows one to reveal the underlying psychological moves and countermoves that are continuously happening in the system, and provides a language for describing them.

In this study, the application of TA in the Organisation conformed to the seven key principles as outlined in Table 15:

Issue	Application
1. Holistic Thinking	The entire PHS was subject to this research, and did not focus merely on the technology or software.
2. Self-similarity	The transactions on a micro level are seen to play out on a systemic level.
3. Circularity	The research identified aspects of the system that encourages the symbiosis between the patients and system, thereby extending the game-playing. Identified mechanisms to intervene, and stabilise the environment.
4. Subjectivity	Realises the role of the researcher in defining and “creating” the problem in the first place.
5. From structure to process	Highlighted the application of TA to identify pastimes, games etc. and ways to prevent these in the system.
6. Focus on Effects	Looked at ways that interactions by IS practitioners can reduce or eliminate game-playing behaviour.
7. Logical Level	Examined PHS based on “Integrative Levels of Analysis” looking at the system, groups, individuals.

Table 15 Application of TA based on Seven TAO principles.

TA explains the perspectives and moves in the PHS terms of the Rituals, Pastimes, Scripts, Power Plays and Games. This research has shown that it is these activities that sap the organisation of the lifeblood needed to perform its function. This results in a system lacking in human or ethical values. In this system the needs of the system are put ahead of the healthcare recipient. Structures and rules are put in place to protect and punish the organisation.

The long-term survival of the host system and the individual has become more important than the health and well-being of the individual. It is also evident by the lack of focus on the emotional and social aspects of health. Lastly, it is evident in the absence of any meaningful attention to any software systems that may enable the organisation to improve the lives of its recipients, or itself.

7.1.2 Games and Power-Plays

The Public Health System appears to be engrossed in self-consuming activities that have little to do with providing health services. Games and Power-

plays such as “Pass the Buck”, and “Flavour of the Month” are established in order to gain psychological advantage. Moves and counter-moves are strategically planned and executed, and score is kept of how much control and prestige one can collect in the process.

The games and pastimes are ritualistic processes that are designed to give the appearance of service delivery, but are in fact serving the needs of the system, and passing time.

In the PHS, power and manipulation is used to gain a competitive, status, or financial advantage. In order to change something, one requires more power or influence than the others. Changing the system by introducing more power, more regulation, or more rules, will not work. If the problem is power, more power cannot fix it (Block, 1988). It is further posited that the presence of a ‘high control’ environment may not be conducive to the improvement of the current situation, and that alternative means may need to be found to circumvent this mode of control.

The only way to intervene in the system is to understand the desires, psychological needs, and intentions of the system and to structure interventions appropriately to complement or satisfy these needs.

This does not imply that one takes the desires, needs and intentions as given, even they might not be beneficial to the host organisation or its recipient. What it does mean is that the underlying psychological needs for recognition of the organisation should be satisfied by interventions, without resorting to manipulation and game-playing behaviour.

7.1.3 Where does the client fit in?

At the end of these chains of events or games is the patient, or the client of the PHS. This leaves the client of the public Health System in a very precarious position, with a small chance of his needs being attended to. This is further exacerbated by the lack of confidence and knowledge that the client has of his/her own body and health needs. The client therefore becomes part of the game-playing system, and is used as a pawn to be sacrificed at will, when the need arises. In the end, regardless of the internal games and power plays, the system wins, and the client loses.

7.2 Healing the Public Health System

The real question therefore is, how does one go about healing the PHS, and what is the role of IS in such a system? How does one go about to change the System in order to make a difference in the health of its clients?

From a TA perspective, any intervention is based on the capacity of individuals to think for themselves, and is based on the life position that “I’m OK, You’re OK”. This means that all people have worth, value and dignity (Stewart and Joines, 1987). It is therefore the responsibility of each of us to decide what we want from health.

Applying a TA perspective, one concludes that individual health sits squarely at the door of the individual, and that it is not the responsibility of the PHS, nor that of society.

7.2.1 It Starts with the Clients

Despite the fact that individuals are responsible for their own health, this research has shown that the system attracts people who operate in a primarily Child ego state of I’m not OK, You’re OK. In order to change this, the individuals’ capacity to take responsibility for their own health needs to be developed. This is not a new concept, but one that is extremely difficult to apply.

There are people that are in fear of their own bodies, the system, and in awe of the knowledge of doctors. This leads them to discount their own ability to look after themselves or their own health. Education, Religion, and the Public Health System all encourage a “We take care of you” perspective. Entrenched hierarchies (even in families) are constituted to “tell you what to do”, and not to help you understand your own needs. Empowerment cannot come from without, and Clients must want to develop their own capacity. Two aspects that can aid in developing this capacity are the education of equals, and Information Systems.

Education can provide people with the skill to be able to think critically and develop means of finding out information that is applicable to their situation. Education, however, needs to be based on the concept that learners have the capability of thinking for themselves, and solving their own problems i.e. education of equals.

The following Paragraphs (7.2.2-7.2.4) will examine aspect two of empowerment in more detail.

7.2.2 Client IS interventions

From an IS perspective, technologies should be implemented to strengthen the ability of individuals to act for themselves. This means solutions that focus on patient (owned) health records (PHR), patient notifications, and interactive self-help mechanisms such as kiosks with software-based expert systems.

Furthermore, media such as television and radio can aid in presenting programs and discussions on understanding and applying wellness practices. Access to the Internet should be made more accessible for patients to discover further detailed information about their own health, such as Web-MD, and ask-a-patient. Cellular phones and mobile technologies can be used for notifications, awareness raising, information sources and internet access.

The mere presence or availability of these technologies or tools is however, insufficient. It also needs confident and educated clients who will be able to stand up for their rights, and have the desire to use such tools. It is also important that the enquiring capability is developed to search and understand one's own health. Looking for information on the treatment of a disease is too late once you have it.

7.2.3 And also the System

Any means which will increase autonomy in the System will be a positive change. Firstly, hospitals and clinics should be run as independent facilities, being able to expend their own income. More use can also be made of NGO and PPP in service delivery. The over-dependence on referrals should also be changed, and Clients treated where they present themselves.

Mechanisms can be implemented to encourage health seeking activities, as well as providing clients with the appropriate information on their visits, treatments, etc. The concept of a Public Medical Aid should also be examined. This will give patients the ability to choose which facilities and services to use.

7.2.4 System IS Interventions

In order to strengthen the system, medical technologies and systems that introduce fun and creativity in the workplace will aid in the development of the PHS natural child. Systems that may find applicability are visual systems such as digital photography for clinical diagnosis and records, digital pens for recording information

and obtaining approval, and medical imaging and storage technologies to integrate them.

7.2.5 How does one stop the games?

The absence of games in an individual means that authentic feelings are expressed as adult requests and responses. One cannot change another person's game-playing behaviour, but one can change one's own responses. It is firstly important to become aware of one's own feelings and reactions, and then to change one's resultant behaviour.

One can use complementary or even crossed ego states in order to diffuse or stop a game. It is important to stop a game before it starts, by confronting the discounts directly. However, if one realises that a game is in progress, one can choose not to have the negative-feeling payoff, or seek out the positive payoff directly. Once game-playing reduces, it becomes important to replace the negative strokes that were acquired as part of game playing, with positive strokes.

When interacting with the PHS as an external agent, it is important to set up agreements that are clear on the intended outcomes, how this will be achieved, the time and costs, and the roles and responsibilities of the different parties.

7.2.6 Who should be doing the healing?

The responsibility for the health of an organisation or individual is that of the organisation or individual. To develop the awareness of the individual, one must have the need, interest or desire to do so. Education needs to start in the home, but it cannot start in the home if parents have not been cared for, nor have taken responsibility for their own lives.

Role models are important, and as Nurse3 has indicated, using actors and celebrities (such as Oprah Winfrey, Nelson Mandela), etc., to introduce people to the concepts and benefits of health and wellness, does work.

Children should also be encouraged from an early age to take responsibility for their own health. They should also be provided with the means or knowledge to find out and discover their own truths.

Teachers and care-givers should also be given the tools to be able to understand the psychological nuances of an organisation, and how they fit into this.

Lastly, one needs to look at existing parenting and pedagogical mechanisms to encourage A-A or education of equals.

7.3 Application of IS

Numerous IS solutions have attempted to aid the SA Public Health System in achieving its objectives. The problem, however, is that these IS solutions have focused on the social objectives, and have largely ignored the psychological objectives. In the case studies that were examined, these IS solutions, their vendors and the outcomes have been drawn into the games and power plays of the PHS, and have been consumed by it.

On a rational level, there are many examples that indicate that these implementations have failed. However, on a psychological level, they may have actually succeeded, in that they have assisted the PHS in achieving the strokes and recognition that it so desperately needs.

7.3.1 So what problems are we solving?

Formal IS development (ISD) practices traditionally look at the business requirements, objectives, processes and so forth. It does not, however, consider the psychological advantages and objectives. Based on this research, it appears to be necessary to include this throughout implementation, and to be clear on what the outcome is that the system wants to achieve.

7.3.2 How can future ISD help?

It is important therefore that future Software Developers understand the “Mind” and not only the “Body” of the system that they are implementing. It is also important for implementers to understand how they are contributing to the problem, and try to build in checks and balances to encourage autonomy.

Systems (software) should not be used to “Rescue” a situation, and people’s capacity needs to be developed to be able to solve their own problems. Once this is understood, then technology should be used to complement this process.

By approaching ISD from an Adult-Adult perspective will ensure a greater chance of the software not becoming a victim, and provide a higher probability of ensuring vitalistic HIS.

7.4 Comparison to other research

As far as the author is aware, no similar studies have been undertaken where TA was used to examine the mind of an organisation.

The application of TA in IS is limited, with some studies done by Hassall (1998) using TA to understand choice in IS; by Sharifi and Kehoe (2004) and Dani, Backhouse and Burns (2004) to look at games that occur in e-marketplaces.

IS is considered to be a social discipline, and it is very interesting that TA and other psychological mechanisms are rarely used in order to understand these systems.

In a study of ICT for enhancing society in Sri-Lanka, Gunatunge and Karunanayake (2004) showed that the extensive use of power and control has limited the ability of the system to function. They identified the failures of ICT in the system, and proposed solutions that look at ICT to foster knowledge sharing, yet they failed to indicate how to understand and overcome the “rigid bureaucracy”.

7.5 Limitations of this research

There are limitations in using a TA perspective (as used in this research) to analyse a complex system such as the Public Health System. TA is primarily concerned with examining the psychological, and emotional interactions of the individual, and as such does not reflect the richness and diversity of aspect of the organisation such as funding, information flow, structure and process that other disciplines of IS examines.

Furthermore, using the metaphor of a living system may mis-represent the actual system, as it is the people in the system that provide the dynamic emergent behaviour, and not the system itself. It should be realised that TA is merely used as a tool or lens with which to view the system, and as such does not present reality, but merely a view of life in the system.

Lastly, because this dissertation followed a structured, linear approach as part of the curricula, there is some disconnect between the different sections in the dissertation. For example, not all the aspects of TA was used for analysis, however the methodology attempts to present a comprehensive overview to the reader.

To benefit fully from the hermeneutic approach would have required several cycles of iteration of the literature survey, research methodology, analysis and

conclusions – all of which is not feasible in the scope and timeframe of a Masters dissertation such as this.

7.6 Further Research

It is entirely possible that this method of looking at the Public Health System is applicable to other organisations and institutions. This does not mean that the scripts, pastimes and games in other organisations will be the same as in public health in SA. What it does mean, is that organisations that are struggling to implement vitalistic IS could benefit from examining their scripts, games, etc., to identify what the organisation is doing to encourage the success or failure of IS to deliver value in the organisation.

While the mind of the PHS in this research cannot be directly applied to other organisations, there may be similarities to other organisations that have similar roots. For example, SA was part of the Commonwealth for a long time, and it is possible that the games developed during this period still exist in the system today. There may therefore be some applicability to other countries that were part of the commonwealth such as the UK, India, Sri-Lanka, Australia, etc.

"I was very disappointed by the first-line state care given in the UK" (PPatient) 1:33.

The experiences in the Public Health System in Cuba under Castro can also be examined considering the number of Cuban doctors that have been appointed in SA. Other African countries may also be grappling with similar issues, and may find value in the application of TA in this way.

Any organisation or country that is struggling to achieve value from its PHS may be able to benefit from this improved understanding of the SA PHS. It may also be possible that other public organisations in SA are struggling with the same issues, games and pastimes as identified in the PHS in SA. These organisations may also benefit from this research.

Lastly, it may be important to examine to what extent one can map the findings for the SA PHS to developed countries such as the UK, the USA and Canada who may be struggling with similar issues. This becomes important especially in the light of the failures in the UK NHS for establishing a single patient record, as well as visions in the USA for implementing a universal health system.

7.7 Value of this research

The value of this research lies in that it provides an entirely different approach in examining IS development and implementation in organisations. A model of a humanistic system is provided to aid in understanding organisations, and the subsequent implementation of IS.

This research has indicated that there are practices that can vitalise the PHS to improve the health and well-being of citizens. It has also shown that there are practices that sap the organisation and its recipients. The research has also shown how to apply the principles of TA to understand the mind of the PHS and why these practices are vitalistic or sapping. This has been applied to the Public Health System in SA, and has revealed a number of Power Plays, Games and Pastimes.

Once these Power Plays, Games and Pastimes are understood, mechanisms can be developed to interact with and strengthen the system. Examples of such mechanisms have been evaluated based on this new understanding, and additional interventions proposed. With this improved understanding of the PHS, ICT interventions can be positioned to ensure greater benefit for the organisation and its clients.

Appendix A: Interviews

Interview Date	Time	Duration	Alias	Division	Job Title	Qualif.	Exp
15 November 2005	16h00-17h00	87:53	ISAdmin1	Health Systems	Systems Support		25
15 November 2005	16h00-17h01	"	ISDev1	Health Systems	Software Developer		
16 November 2005	11h30-12h30	88:08	ISAdmin2	DoH	D/Director IS		
16 November 2005	14h15-15h30	51:10	ISSupport1	DoH	Senior Clerk - Core Trainer		
16 November 2005	15h30-16h20	50:36	ISAdmin3	IS	Corporate Services Manager	B.Soc, B.Sc, (Computer Science) Bio-Medical Engineering	30+
17 November 2005	13h00-14h00	45:57	Nurse1	DoH	Administrator (Nurse)		
23 November 2005	14h00-16h00	81:46	ISCons	School of Public Health			
06 January 2006	8h30-10h00	63:07	Admin1	DoH	Admin Clerk	Matric	22
18 January 2006	11h00-12h00	37:45	Nurse2	IT Support	Radio Therapist/Desktop Support Manager		
18 January 2006	12h00-13h00	25:12	Admin2	Finance	Financial Clerk		
18 January 2006	13h00-14h00	31:59	Doctor1	Department of Health	Forensic Science	Mb.ChB, MBA, M.Phil	30+
18 January 2006	14h00-15h00	45:44	Nurse3	Department of Health	Deputy Director Health Promotion	Registered Nurse, Mental Health diploma	38
2 February 2006	13h00	22:45	PNurse	Nurse		Diploma in Nursing	21
18 February 2006	11h00-11h40	41:25	Patient1				
03 March 2006	16h00	53:31	Doctor2	Department of Health	Policy Planning	Mb.CHB, Mmed in Community Health, Diploma in Datametrics, MBA, Postgraduate diploma in Health Management.	24
07 March 2006	14h00-16h00	69:25	PAdmin				17
08 April 2006	11h00	8:09	ISAdmin4		eHealth Specialist		
4 May 2006	18h00	34:16	CIO1	DoH			
25 May 2006	10h00	30:04	Patient2				
26 May 2006	9h00	9:49	PPatient				

Appendix B: Survey of HIS Research in SA

Reference	Date	Title	Country	Information	HIS/ Technology	Scale of IS	Research Methodology
(Booman et al.)	2003	Enhancing malaria control using a computerised management system in southern Africa	SA/ Cross border	Malaria spraying and monitoring system	SP2 & GIS (MapInfo)	Mpumalanga, Mozambique	Positivist, Case Study
(Braa and Hedberg)	2002	The Struggle for District-Based Health Information Systems in South Africa.	SA	Epidemiology, Recording of incidence of diseases and treatments	HISP	National	ANT, Interpretive, Action Research, System Delivery
(Brink)	1998	ILEX SA--Making a contribution to future health care.	SA	Laboratory management and Instrumentation Laboratory	ILIMS	National	Product review
(Bruce)	2002	Marrying modern health practices and technology with traditional practices: issues for the African continent	Africa	Health technologies for health care	Various	African	Review of Health technologies for alternative health care
(Byrne)	2004	Participatory Design of a Community-Based Child Health Information System in South Africa	SA	Paper-based IS, information on health needs (love, environment, good growth)	CBIS	District (uThukela)	Qualitative case study
(Delaney)	2004	Innovation can cure infrastructural frailties.	SA	Patient admission & billing, clinical	Health ICT, Telemedicine	Western Cape, Mpumalanga	
(Fernandes)	2004	Monitoring system for anti-retroviral treatment in South Africa	SA	ARV rollout	Paab/ Medicom NHIS	National	
(Harris)	2004	A decentralized DHS: easy in theory, difficult in practice.	SA	Treatment indicators	DHIS/ Access	National, Districts	
(Hedberg)	2003	HIS - Progress with Caveats - An Integration Perspective	SA	HIS	Various	National	Positivist Overview of

							HIS in SA
(Herbst et al.)	1999	Evaluating computerised health information systems: hardware, software and human ware: experiences from the Northern Province, South Africa	SA	Computerised integrated HIS	MEDICOM	Provincial, Limpopo	Positivistic, Quantitative, Qualitative, formative evaluation, impacts (benefits and cost-effectiveness)
(Khotu)	2001	National Health Care Management Information System of South Africa.	SA	National Health Care Information System	CHC/MIS	National	Requirements for National Health Care IS
(Khumisi et al.)	2002	NHC/MIS Workshop Report	SA	Interoperability of National HIS	NHIS	National	Workshop
(Language)	2004	Cache high performance database underpins success of Western Cape's health IT infrastr.	SA	EPR	Clinicom	Western Cape	Intersystems advertorial
(Littlejohns et al.)	2003	Evaluating computerised health information systems: hard lessons still to be learnt	SA	Computerised integrated HIS	MEDICOM	Provincial, Limpopo	Positivistic, Quantitative, Qualitative
(Mathews)	2003	Analysing the functions, roles and skills of District Information Officers in the implementation of the DHIS in South Africa.	SA	DIO's	DHIS	North West, Free State, Western Cape, Mpumalanga.	Qualitative, Quantitative, Positivistic
(Mbananga and Sekokotla)	2002	The utilisation of Health Management Information in Mpumalanga Province	SA	Utilisation of Health Info	Various	Province & Districts, Mpumalanga	Positivistic, qualitative
(Rotich et al.)	2003	Installing and Implementing a Computer-based Patient Record System in Sub-Saharan Africa: The Mosoriot Medical Record System.	Kenya	Patient admission and patient records	MMRS	Health Center based (Paper records to ministry)	Case Study, time-motion studies, action research, System Delivery

(Scott et al.)	2002	Towards the creation of a health information system for cancer in KwaZulu-Natal, South Africa.	SA	GIS, Classifiable diseases, descriptive epidemiology, medical geography	DHMIS, Cancer Registry	KZN	Positivist, case study, action research,
(Snyman and Snyman)	2003	Getting information to disadvantaged rural communities: the centre approach	SA	Telecentres & MPCC's	MPCC	Countrywide	Interpretive, Quantitative & Qualitative
(Tanser et al.)	2001	New approaches to spatially analyse primary health care usage patterns in rural South Africa	SA	Mapping of Clinic usage patterns	GIS	District, Hlabisa	Positivist, quantitative
(PPP in Healthcare: Inkosi Albert Luthuli Central Hospital - SA)	2004	PPP in Healthcare: Inkosi Albert Luthuli Central Hospital - SA	SA	PPP, IT&IM	MEDICOM	Hospital	Report
(MEDICOM)	2005a	An Enterprise-wide Implementation of a Hospital Information System	SA	Patient admission and patient records	MEDICOM	Province (Gauteng)	Positivist, case study
(Williamson et al.)	2001	Developing a district health information system in South Africa: a social process or technical solution?	SA	Computerised HIS	DHIS	District Hospitals in a number of Provinces	Interpretive, qualitative

Table 16 Survey of HIS research in SA

Appendix C: Case Study Review

Detailed MEDICOM Case Study Review

Authors	Date	Country	Information	HIS/Technologies	Scale of IS	Research Methodology	Host Organisation	Artifacts
Unknown	2005	SA	Patient admission and patient records	MEDICOM/Mainframe based, terminal screen	Province (Gauteng)	Positivistic, case study	Gauteng Provincial Government (DoH)	MEDICOM HIS
Objectives and Values	Improvement of efficiency and effectiveness in health care services, distributed solution linking head-office with a network of hospitals, health care centers and clinics across the province, comprehensive solution including hardware, software and support services (application consulting, maintenance and training), scalable (performance) with modular components able to support functional specialisation. Implementation within time and budget.							
Approach/Processes	The MEDICOM philosophy is to focus on the technology and functionality of its product, provide choices of platform and OS, keep product standards based, be sensitive to cost of ownership through reduced hardware footprint, ISO9001 certified. Developed a consortium of 5 groups (IBM, Intersolve Health Informatics, Kwetliso Technologies, Continental Pharmaceuticals and Ukukhula Investments) to meet objective of BEE. Key focus was technical capability of HIS (state-of-the art, comprehensive, integrated-automating all areas of critical health care activity, end-to-end integration, cutting edge technology and methodologies (open systems allowing interoperability, multimedia & image technology...). Deployment (Installation and configuration of centralised high-end IBM servers, connecting of all institutions to the HIS environment, installation of PC's and printers), activation of 24 components (patient admin, supply chain, clinical modules (theatres, nursing mgmt, services), financial modules. Worked with a selected customer team to analyse the functionality of each module prior to implementation, modified the software so that these needs could be met, installing PC management software, training of end-users on pc literacy, application functionality and change management through formal & informal on-the-job, mentoring and coaching							
Issues, Challenges/ Enablers, Success Factors	"transformation required in a project of this complexity presented many hurdles which required close management" (p4). Managing scope creep within budget important, training occurred just prior to go-live and required handholding to ensure (force) usage. Communication with the team and customer were important to deliver the 'right' messages and keep the focus of the project, KM is key to enabling sharing of best practices.							

Impact	Access to improved and more accurate clinical information in terms of nursing management, clinical management and standardised treatment (not proven in case study), ability to track, access and analyse key performance measures, beginning to realise increased operational efficiencies, standardised service delivery and using electronic mediums to complete tasks and collaborate (All not proven), improvement of patient registration (not verified), workers are able to process paperwork faster claiming an improvement in customer satisfaction and overall patient care?, Department has more control over underlying business practices. Management dashboard to highlight key staff performance indicators, increased profits through implementation of General Ledger, improved supply chain (medicines to stores from 3 days to 1 day), able to implement improved patient care policies for clinical, nursing and admin staff. Staff improvement by exposing them to computers and IT, additional learning to use Microsoft Office suite leading to a boost in staff morale
Beneficiaries	Consortium of implementers, DoH
Recommendations/ Further Research/ Lessons learnt	Collaborate heavily with business partners when selling in order to develop the right structure for the customer. Strong change management is essential for the implementation (transformation and acceptance of technology), Team members worked as part of consortium, not as separate companies, thereby ensuring consolidated approach. Quarterly Review events important to recognise enormous effort of the team to achieve objectives.
Interpretation	Case study by vendor, and may be biased. Technological determination, clear focus on software, system capabilities and features, changing of organisation to suit system, end-user involvement delayed until just before go-live. Positive impact not clearly demonstrated, System locus of control over business practices, staff performance, revised work policies, minimal involvement of organisation throughout 'installation'. Installation rather than adoption by organisation, minimal to no benefits by patients or end users. MSP- In the Gauteng province the primary HIS (MEDICOM) is partially deployed with the majority of modules not implemented 3 years after this study. In the pharmacies, dispensing and inventory is still manual with prescription medicine and dispensing tracked with bin stickers that are manually updated. Patient records are primarily paper based resulting in Chris Hani Baragwanath hospital formulating a policy that patients should keep their own files as it was taking longer than a day to retrieve a patient file from the millions of paper records. In many hospitals, older or retired systems are still in use and often act in a parallel capacity to MEDICOM or manual systems (GPG DoH MSP, 2004)

Table 17 Unknown (2005a) Case Study Review

Detailed GIS Cancer Registry Case Study Review

Authors	Date	Country	Information	HIS/ Technologies	Scale of IS	Research Methodology	Host Organisation	Artifacts
Scott, D., Curtis, B. & Twumasi, F.O.	2002	SA	Classifiable diseases, descriptive epidemiology, medical geography	DHMIS, Cancer Registry/GIS	KZN	Positivistic, case study, action research,	KZN DOH	GIS System with spatial mapping of cancer treatment/reporting incidents.
Objectives and Values	Evaluating the potential of GIS in the creation of a HIS for cancer. Presenting a spatial description of reported, publicly treated cancer in KZN. Correlate spatial distribution of cancer with levels of development. Evaluate suitability of using GIS as a spatial tool and illustrate problems faced. Illustrate spatial aspect of cancer risk factors							
Approach/ Processes	Use of COTS software, external development, capturing of existing paper based records							
Issues, Challenges/ Enablers, Success Factors	poor quality of data due to incomplete records, poor registration system, informal urban and rural residences have no address, inability to access patient files, absence of addresses, absence of privately treated data, unreported cases,							
Impact	provided a 'geography of accessibility to cancer treatment centers' (p247), May improve methods of health intervention with respect to cancer treatment (no clear details given how), may help in promoting location of appropriate health care facilities (not in this case study), understanding the disease better (No benefits of this given), improved methods of disease recording (for whose benefits and use?)							
Beneficiaries	Researcher, implementers of GIS (limited to the research timeframe)							
Recommendations/Further Research	No further research recommended							
Interpretation	Mechanistic study with objectives for use of technology and not health benefits. Vague references to possible use however no clear detail given. No actual benefits of IS shown, IS use was temporal (for the duration of the study), IS not adopted by host organisation, real beneficiaries are researchers & implementers. System presents limited vitalistic characteristics.							

Table 18 Scott, Curtis & Twumasi (2002) Case Study Review

Detailed CBIS Case Study Review

Authors	Date	Country	Information	HIS/Tech nologies	Scale of IS	Research Methodology	Host Organisation	Artifacts
Byrne, E	2004	SA	Paper based IS, information on health needs	CBIS	District (uThukela)	qualitative case study,	uThukela District Child Survival Project (local communities and DOH)	Revised CBIS
Objectives and Values	Create a context in which optimal health and well-being are achieved and sustained (p1),							
Approach/ Processes	participatory situational assessment and a monitoring and evaluation workshop, Surveys and evaluations to contribute to the understanding of the context in which the information system was to be designed (p1), process of developing and designing CBIS, implementation of revised IS, The focus lies more on the collection and use of data that forms the foundation for this e-health system, no technology involved at this level, designing IS for action, participatory situational analysis, involvement of key people in community and service delivery, Designing of system to: manage childhood illnesses better and better attain a state of well-being for their children; learn from their, and other people's, experiences; make informed decisions; and claim their and their children's rights by holding duty bearers accountable. (p2), interviews, focused group discussions, meetings. understanding of context (powers, traditions and customs, socio-economic conditions)							
Issues, Challenges/ Enablers, Success Factors	Enablers: pre-existing work on DHIS provided a platform to expand IS, CBIS is part of a larger community and district health system. Making HIS interventions an integrated part of larger health projects is key to success. Constraints/Challenges: Shifting responsibilities as a result of CHW being employed by DOH (changed from focus on children and household at risk to broad community focus), DIO position vacant, making it difficult to embed CBIS culture in DHIS, Non-overlapping datasets - making it difficult to include community based information at higher level IS							
Impact	tackling of vulnerability of children, creating awareness of children situation through improved IS for action, IS used for advocating and influencing decisions and policies for the rights of children, enhancement of DHIS to provide inclusion of community and children needs, stimulating reflection and use of community-based data, determination of indicators of community needs, adaptation of forms to include these indicators, improved information flows, influencing district information systems, improving of processes in which health system operates (reducing number of data collection forms, training of 75 community health workers and involving them in design process, development of information culture around CHW, reducing data collection time from 3h to 1 h), emphasising importance of IS at community levels within the DHIS, feedback of information to community -level partners, expanding of system to rest of uThukela district. Paradigm shift from the monitoring of community interventions to the empowerment of communities to monitor themselves and their children. Outcome can easily be fed into planned interventions							
Beneficiaries	Households, communities, health facility staff, community health workers, clinic health committees, traditional leaders, councilors, social workers, early childhood practitioners, mothers (including teenagers), fathers, grandmothers, Department of Health staff, and TDCSP staff.							

Recommendations/ Further Research	Providing a voice for communities by including their information based on their needs and values, in other HIS in order to provide a more complete picture for decision making, Adopting a participatory approach, empowering communities to manage and monitor their own health interventions and their impact. Adopting a flexible approach as required by the complexity of the social context- in the design and development of HIS that involve communities. Realise that this approach is time, resource intensive, and that availability and context affects the process, rate and order of progression.
Interpretation	A focus on optimal health and well-being, Clear focus on the social implications of IS, improved a paper based IS to benefit communities and empower them through improved information, IS used for influencing decisions and policies that affect recipients, provided staff with more quality time by reducing data collection time, incorporation of CHW in DOH may negatively effect further rollout, IS made part of the fabric of the community, impact on provincial, national funding, decision making and policy not evident yet.

Table 19 Byrne (2004) Case Study Review

Detailed DHIS Case Study Review

Authors	Date	Country	Information	HIS/Technologies	Scale of IS	Research Methodology	Host Organisation	Artifacts
Braa, J. & Hedberg, C.	2002	SA	Epidemiology, Recording of incidence of diseases and treatments	HISP/MS Access	National	ANT, Interpretative, Action Research, System Delivery	District Health Care Centers in South Africa (Western & Eastern Cape specified)	Development of essential data sets for PHC, development of DHIS software, implementing these datasets. Developing national datasets, development of business plans for rollout in each province
Objectives and Values	Identifying information needs and supporting district management teams							
Approach/ Processes	intensive collaboration & negotiations (funders, client, research institution, developers, countries,), active prototyping & user interaction, Hosting open day conference & presenting successes, presentation at national health conference, implementation of national datasets, endorsement as a national standard, implementing pilot projects, encourage districts to develop own additional datasets, simple datasets, negotiation between district and national level on useable standards, workshops with stakeholders to filter and challenge validity of data items, inscription of organisational changes in the software, process of participatory prototyping, informal mechanism for reporting bugs and requesting new functionality, rapid development of new or corrected versions, logging and prioritisation of requests, emphasis on performance and progress, improvisation, (meritocratic approach p 122), no regulated access to developers, no formal communication channels, focus on innovation and localisation, cultivation (negotiating and brokering between actors at multiple levels in the design of information systems and standards' (p.126), Diffusion: 'spread replicable processes and cultivate in each new location (adaptation and appropriation) (p. 126)							
Issues, Challenges/ Enablers, Success Factors	lack of external funding despite perceived success, never officially accepted by official structures, vulnerability, apartheid legacy of command and control in information flows, data used as a tool of power and control, unintended consequence of data reporting system, confirming and reinforcing social contracts and existing power structures (p.120), 'the inscriptions, standards, information systems, and organizational structures inherited from apartheid present considerable obstacles to change (p 125)							
Impact	Relative success in implementation compared to other initiatives (Tick card & EC reports), 95% data input coverage, independence, interchange of data and reporting systems act as 'institutional glue' (p.119), constitute and reproduce the social relationships and contracts and the social fabric within the health service' (p 119), 'standards for PHC data need to ensure compatibility and enable							

	comparison across areas; second, they should be feasible to collect; and third, they should be useful' (p120), compromising on compatible data (e.g. teenage cutoff age), focus on feasible data collection (syndromes vs. lab tests), useful data (elements should be expressed as a relevant indicator that is actually used), equal control between central and local levels, local flexibility and user orientation, integrating vertical flows at district level, empowerment of local management, health workers and communities, free access to anonymous aggregated health data/information, enabling environment within a framework of standards, challenging existing organisational structures, empowering end and information users, the apartheid legacy also provided the political and social context within which change was enabled (p125)
Beneficiaries	Upskilling of personnel through training, involvement and increased responsibilities, decentralised change in decision-making power regarding budgeting and management, improved information management at local level, IS development in Public Health in SA
Recommendations/Further Research	First is to apply the key element in action research itself, to feed our narratives and findings back to those who can assess them, ranging from those who have participated in the research to the wider research community.' 'Second is to evaluate the de facto outcomes of the process: the availability of appropriate information for management, the actual use of this information, the sustainability of the processes and products, and their replication in other countries.' (p126)
Interpretation	Authors have stake in DHIS system that has been acknowledged. Impact of implementation has not been measured - allowance is made in further research. Is vitalistic as system has fostered communication, challenging of existing beurocracies, made the information useful, integration between different structures across provinces, national and district level, provide 'common' platform for people with similar needs, brought people from different levels, cultures and backgrounds together (institutional glue)

Table 20 Braa & Hedberg (2002) Case Study Review

Detailed MMRS Case Study Review

Authors	Date	Title	Information	HIS/ Technologies	Scale of HIS	Research Methodology	Objective	Host Organisation	Artifacts
Rotich J.K., Hannan T.J., Smith F.E., Bii J., Odero W.W., Vu N., Mamlin B.W., Mamlin J.J., Einterz R.M. & Tierney W.M.	2003	Kenya	Patient admission and patient records	MMRS/Paper based	Health Center based (Paper records to ministry)	Case Study, time-motion studies, action research, System Delivery	Design, Implementation, Evolution, Problem Solving, Evaluation	Rural Health Care Center in Mosoriot, Kenya (MRHC)	Implemented MMRS, Time- motion studies of workflow
Objectives and Values	Design, Implementation, Evolution, Problem Solving, Evaluation								
Approach/ Processes	* Full detail of design and implementation available in Hannan et al. (2000). Collaboration between Educational Institutions (Uni. Indiana & MUCHS) and Host Organisation, change in admission and treatment procedures, automation of paper based capturing to computer based, focus on admissions records (filed) and patient record (treatment booklet), implementation of common data dictionary that is updated continuously, catering for ministry of health (immunizations, distribution of visits and activity reports) and hospital managers information needs (addition of terms), technical procedures to ensure data security, integrity and availability (password protect, limited access, automatic backups with off-site storage), flexibility to create additional reports, redirecting patient flow to ensure capturing of treatment, introducing additional person for records capturing, redesigning of data screens to suit keyboard based entry, partial name lookup for data fields, sensitivity to local cultures when designing system, developed and maintained by locals,								
Issues, Challenges/ Enablers, Success Factors	Power rationing including rotational power cuts, no unique patient identifier, convincing staff to take on burden of new system, training, additional workload for running duplicate systems during implementation (paper & electronic), system required substantial changes in design and implementation as early experiences did not bear out assumptions, prediction of system usage and impact on healthcare delivery uncertain at start,								
Impact	Adopting a sustainable power infrastructure suitable to environment (solar + grid), maintaining paper format for treatments (data backups and easier for nurses to use), building of trust in security of data (not explained how), changing of software to facilitate keyboard capturing (responding to requests for enhancements), information systems affect how care is delivered, which in turn affects how they accept the system (positive feedback cycle), entry of more than 95% of data for visits, voluntary discontinuation of duplicate paper records (logbooks), patient visit duration decreased to 75% (patients spent less than 42% time with provider and slightly more time for registration). Providers personal time increased by 30% with associated decrease in time spent with patients (50%) and decrease in required interaction with other staff (75%) for providers and clerks). Clarks spent less time writing reports (15% less) and more time searching for information (2,5% more). reduction in monthly reporting times to ministry (2weeks--> minutes) needed patient data can be retrieved immediately, picked up cluster of STD's, Picked up lack of immunizations and responded to it, freed up records clerks (2) to perform other duties, MRHC named as top HC in Kenya, prompted visit by minister of health and Information officers with option of making national standard. developed a sense of pride and ownership, use of paper based information system with checkboxes								

	to feed computer system, no extra burden on health care provider for capturing data
Beneficiaries	Hospital staff (clerks and care providers), patients, management, ministry, provided more staff, non-patients (immunizations and treatment of STD outbreak)
Recommendations/Further Research	Similar systems can be used to improve health care in developing countries, How system can assist in targeting limited resources towards specific improvement initiatives, how IS can support and enhance national and international health care initiatives (disease prevention & health promotion), financial benefits of implementing such an IS.
Interpretation	The author has a stake in the article, as they were involved in the implementation and research. Despite this, the accounts appear believable and the rigor evident. Aspects such as reasons why certain things were done, and what the objectives were, is not clear from this account. Compared to the previous study, the organisational challenges and political issues were not highlighted. The rhetoric focused on the technical or measurable aspects of the evaluation and implementation. Despite indications that a locally developed system has a far greater chance of being implemented, the original system was conceptualised and developed by an international team of experienced medical informaticians. Key however is that the software was extensively changed to suit local requirements, and local people were involved in this process.

Table 21 Rotich et al. (2003) Case Study Review

“The software of the machines may be globalized,
but the software of the minds that use the terminals is not.”

(Hofstede, 2001:453)

Appendix D: References

- Ablet Factory (2007), [Online] Available: http://www.abletfactory.com/emrtoolkit_detail.htm [October 16, 2007].
- ACT, M. S. (1998) MEDICAL SCHEMES ACT, NO. 131. IN GOVERNMENT, S. A. (Ed.).
- ADMIN1 (2006) *Interview with the author on 06 January 2006*. Cape Town, [Digital recording on CD accompanying thesis].
- ADMIN2 (2006) *Interview with the author on 18 January 2006*. Johannesburg, [Digital recording on CD accompanying thesis].
- ALDANA, S. G. (2001) Financial Impact of Health Promotion Programs: A Comprehensive Review of the Literature. *American Journal of Health Promotion*, 15, 296-320.
- ALLAN, C., OVERY, N., SOMHLABA, Z., TETYANA, V. & ZEPE, L. (2004) *The Crisis of Public Health Care in the Eastern Cape*, Grahamstown., comPress.
- ANDERSON, J. G. & AYDIN, C. E. (2005) *Evaluating the organizational impact of health care information systems*, Springer.
- AVGEROU, C., CIBORRA, C. & LAND, F. (2004) *The Social Study of Information and Communication Technology: Innovation, Actors, and Contexts*, Oxford University Press.
- BALLING, R. (2005) Diagnosis of Organizational Cultures. *Transactional Analysis Journal*, 35, 313-320.
- BEER, S. (1979) *The heart of enterprise*, Wiley.
- BEER, S. (1981) *Brain of the firm*, John Wiley & Sons.
- BENATAR, S., BHOOLA, K. D., CLEATON-JONES, P. E., DE KLERK, W. A., DU TOIT, D., HERMAN, A., LABUSCHAGNE, A., LEIBOWITZ, M., LOUW, D. J., MATSILIZA, N., MBEWU, A. D., ORR, W., POGGENPOEL, M., ROBERTS, C., VAN NIEKERK, A. A., VAN OOSTEN, F. F. W. & VAN WYK, C. W. (2002) Guidelines on ethics for medical research. *Book 1: General principles*. Parowvallei, Medical Research Council.
- BERG, M. & TOUSSAINT, P. (2003) The mantra of modeling and the forgotten powers of paper: a sociotechnical view on the development of process-oriented ICT in health care. *International Journal of Medical Informatics*, 69, 223-234.
- BERNE, E. (1961) *Transactional analysis in psychotherapy*, Grove Press New York.
- BERNE, E. (1963) *The structure and dynamics of organizations and groups*, Philadelphia., Lippincott.
- BERNE, E. (1964) *Games People Play: The Psychology of Human Relationships*, UK., Penguin Books.
- Better Health in Africa. (1994) *Experience and Lessons Learned*. . Washington., The International Bank for Reconstruction and Development. .
- BLOCK, P. (1988) *The empowered manager*, Jossey-Bass San Francisco.
- BOOMAN, M., SHARP, B. L., MARTIN, C. L., MANJATE, B., LA GRANGE, J. J. & DURRHEIM, D. N. (2003) Enhancing malaria control using a computerised management system in southern Africa. *Malaria Journal*, 2, 1-5.
- BRAA, J. (2003a) Integrated Masters Programs in Public Health and Information Systems - some lessons from South Africa, Mozambique, Tanzania, Malawi and Ethiopia. *Presentation at the Copenhagen DANIDA workshop (og*

- Lygraseminaret* *litt* *senere!*).
[http://www.siu.no/vev.nsf/d48a0ecf27ae054dc1256f630063e8d7/bbd286f2fce4682ec1256c1a00489551/\\$FILE/Notat%20J%C3%B8rn%20Braa.doc](http://www.siu.no/vev.nsf/d48a0ecf27ae054dc1256f630063e8d7/bbd286f2fce4682ec1256c1a00489551/$FILE/Notat%20J%C3%B8rn%20Braa.doc).
- BRAA, J. (2003b) Strategies for developing Health Information Systems in Developing Countries. *WITFOR 2003 White Book*.
- BRAA, J., HANSETH, O., HEYWOOD, A., MOHAMMED, W. & SHAW, V. (2007) Developing Health Information Systems in Developing Countries: The Flexible Standards Strategy. *MIS Quarterly*, 31, 381-402.
- BRAA, J. & HEDBERG, C. (2002) The Struggle for District-Based Health Information Systems in South Africa. *The Information Society*, 113-127.
- BRAA, J. & HEYWOOD, A. (1995) South Africa, Africa and Health Information Systems–The Need for a Reciprocal Collaboration. *STUDIES IN HEALTH TECHNOLOGY AND INFORMATICS*, 173-186.
- BRINK, M. (1998) ILEX SA--Making a Contribution to Future Health Care. *South African Journal of Science*, 94, 558-559.
- BRUCE, J. C. (2002) Marrying modern health practices and technology with traditional practices: issues for the African continent. *International Nursing Review*, 49, 161-167.
- BUSGEETH, K. & RIVETT, U. (2004) The use of a spatial information system in the management of HIV/AIDS in South Africa. *feedback*.
- BYRNE, E. (2004) *Participatory Design of a Community-Based Child Health Information System in South Africa*, [Online] Available: <http://www.e-devexchange.org/eGov/childhealthis.htm>.
- CapMed ICE PHR (2007), [Online] Available: <http://www.capmed.com>.
- CHASE-DUNN, C. K. (1991) *Global Formation: Structures of the World-Economy*, Blackwell.
- CHECKLAND, P. B. & HOLWELL, S. (1998) *Information, Systems, and Information Systems*, Chichester UK., Wiley.
- CHEVALIER, C. (2005) Dealing with Crises in Organizations. *Transactional Analysis Journal*, 35, 348-352.
- CHOPRA, D. (1989) *Quantum Healing: Exploring the Frontiers of Mind/Body Medicine*, NY., Bantam Books.
- CHOPRA, D. (2002) *The new Physics of Healing*. [CD] AW00548D. Boulder., Sounds True.
- CHOY, A. (1990) The winner's triangle. *Transactional Analysis Journal*, 20, 40-46.
- CIO1 (2006) *Interview with the author on 04 May 2006*. Mafikeng, [Digital recording on CD accompanying thesis].
- COOPERRIDER, D. L., SORENSEN, P. F. J., YAEGER, T. F. & WHITNEY, D., ED. (2001) *Appreciative Inquiry: An Emerging Direction for Organization Development*, Champaign IL, Stipes Publishing L.L.C.
- COVEY, S. R. (1992) *The Seven Habits of Highly Effective People - Restoring the Character Ethic*. , London, Simon & Schuster Ltd.
- CRABTREE, B. F. E. & MILLER, W. L. E. (1992) *Doing Qualitative Research: Research Methods for Primary Care*, California., Sage Publications.
- DANI, S., BACKHOUSE, C. J. & BURNS, N. D. (2004) Application of transactional analysis in supply chain networks: a potential holonic mediating tool. *Proceedings of Instn Mech Engrs*, 218, 571-580.

- DE VOS, F. (2006) Building a model of Holistic Healing Environments for Children's Hospitals. *Unpublished Phd Dissertation*.
- DEAL, T. E. & KENNEDY, A. A. (2000) *Corporate Cultures: The Rites and Rituals of Corporate Life*, Perseus Books Group.
- DEAN, M. (1999) *Governmentality: Power and Rule in Modern Society*, London, Sage Publications.
- DELANEY, J. (2004) Innovation can cure infrastructural frailties. *Public Healthcare Magazine*, 1, 17-19.
- DENNETT, D. C. (1978) *Intentional systems*, Montgomery, Vermont, Bradford Books.
- DESY, P. L. (2007) *Holistic Healing*, [Online] Available: <http://healing.about.com/od/faq/f/disease.htm> [16 December 2007].
- DOCTOR1 (2006) *Interview with the author on 18 January 2006*. Johannesburg, [Digital recording on CD accompanying thesis].
- DOCTOR2 (2006) *Interview with the author on 03 March 2006*. Mafikeng, [Digital recording on CD accompanying thesis].
- DREGO, P. (1996) The Cultural Parent. *Transactional Analysis in Organisations: First volume of selected articles 1974-1994*, 195-202.
- DROR, D. M. P., A.S. (2005) *Social Re Insurance: A new approach to sustainable Community Health Financing.*, Washington, World Bank.
- DU PLOOY, N. F. (1999) The social responsibilities of information systems developers. *Communicatio*, 25, 42-52.
- ENGLISH, F. (1969) Episcrypt and the Hot Potato Game. *TAB*, 8, 77-82.
- ENGLISH, F. (1971) The substitution factor: rackets and real feelings. *TAJ*, 1, 27-29.
- FERNANDES, A. (2004) Monitoring system for anti-retroviral treatment in South Africa. *Public Healthcare Magazine*.
- FOLATENG (2006) *A plush 'private ward'- at the Gen*, [Online] Available: http://www.joburg.org.za/may2002/jhb_gen.stm.
- FOSTER, R. (2006) The use of ICTs to improve service delivery in primary health care facilities in the Western Cape :realistic vision or impractical fantasy? *HISA*. Mmabatho.
- FOURIE, I. J. V. H. (1999) *The Megatrends of Health Care Reform in South Africa*, [Online] Available: <http://general.rau.ac.za/aambeeld/junie1999/megatrends.HTM>.
- FOX, E. (1975) Eric Berne's theory of organizations. *Transactional Analysis Journal*, 4, 348-353.
- Free Online Dictionary* (2005), [Online] Available: <http://www.thefreedictionary.com> [June 10, 2005].
- FRIEDMAN, C. P. & WYATT, J. C. (2005) *Evaluation Methods in Biomedical Informatics (Health Informatics)*, Springer-Verlag New York, Inc. Secaucus, NJ, USA.
- Gauteng Provincial Government Budget Statement 2004/5. (2005) *The Head of Treasury*. Private Bag X091, Marshalltown, 2107, GPG.
- GIARELLI, E. J., L.A. (2003) Traditional Healing and HIV-AIDS in KwaZulu-Natal, South Africa. *American Journal of Nursing* 103, 36-46.
- GIDDENS, A. (1976) *New Rules of Sociological Method: A positive Critique of Interpretive Sociologies*, London., Hutchinson & Co.

- GOLEMAN, D. (2004) *Emotional Intelligence & Working with Emotional Intelligence*, London., Bloomsbury Publishing.
- GOULDING, M. & GOULDING, R. (1979) *Changing lives through redecision therapy*, New York., Brunner.
- GUNATUNGE, R. S. K., M.M. (2004) Information and Communication Technologies for Enhancing Socio-economic Development at the Local Level in Sri Lanka: Issues, Challenges and Strategies. . *18th European Conference on Modern South Asian Studies, 6–9 July 2004*. Lund, Sweden.
- HANDY, C. (1985) *Understanding Organizations*. London, 1, 985.
- HARRIS, L. (2004) A decentralized DHS: easy in theory, difficult in practice. *Public Healthcare Magazine*.
- HARRIS, T. A. (1995) *I'm OK, You're OK*, London., Arrow Books.
- HASSALL, J. (1998) Information Systems to Support Choice – A Philosophical and Phenomenological Exploration. *Working Papers, University of Wolverhampton, Management Research Centre*.
<http://www.uwbs.co.uk/documents/mrc/Working%20Papers%201998/WP018-98%20Hassall.pdf>.
- HAUX, R., WINTER, A., AMMENWERTH, E. & BRIGL, B. (2004) *Strategic Information Management in Hospitals: An Introduction to Hospital Information Systems*. , NY, Springer-Verlag.
- Health Sector Strategic Framework 1999 – 2004. (2005).
- Health Systems Trust Up-Date (1997), [Online] Available: <http://www.hst.org.za> [June 5, 2005].
- HEDBERG, C. (2003) *Health Information Systems Progress with Caveats – an Integration Perspective 2003 South African Health Review - Health Systems Trust*, [Online] Available: <http://www.hst.org.za/publications/423>.
- HEDBERG, C. (2005) Overview of the Health Information System Program (HISP). *World Information Technology Forum (WITFOR 2005)*. Available [DVD-ROM]: file://Conferences/WITFOR2005/CHedberg.wav. [31 Aug-2 Sep 2005].
- HEEKS, R. (2002) Information Systems and Developing Countries: Failure, Success, and Local Improvisations. *The Information Society*, 18, 101-112.
- HEEKS, R. (2006) Health information systems: Failure, success and improvisation. *International Journal of Medical Informatics*, 75, 125-137.
- HERBST, K., LITTLEJOHNS, P., COLLINSON, M. & WYATT, J. C. (1999) Evaluating computerised health information systems: hardware, software and human ware: experiences from the Northern Province, South Africa. *Journal of Public Health Medicine*, 21, 305-310.
- HOFSTEDE, G. (2001) *Culture's consequences: Comparing values, behaviours, institutions, and organisations across nations*, California., Sage Publications.
- HUGO, J. (1989) *Media in Medical, Dental and Community Health Education in the Year 2000*, University of Stellenbosch.
- IGFR06 (2006) *Trends In Intergovernmental Finances (IGFR 06) 2000/01 - 2006/07*, [Online] Available: <http://www.finance.gov.za/documents/ifr/2004/default.htm>.
- IGFR. (2006) *Trends In Intergovernmental Finances 2000/01 - 2006/07*, [Online] Available: <http://www.finance.gov.za/documents/ifr/2004/default.htm>, .
- ISADMIN1 (2005) *Interview with the author on 15 November 2005*. Cape Town, [Digital recording on CD accompanying thesis].

- ISADMIN2 (2005) *Interview with the author on 16 November 2005*. Cape Town, [Digital recording on CD accompanying thesis].
- ISADMIN3 (2005) *Interview with the author on 16 November 2005*. Cape Town, [Digital recording on CD accompanying thesis].
- ISADMIN4 (2006) *Interview with the author on 08 April 2006*. Tshwane, [Digital recording on CD accompanying thesis].
- ISCONS (2005) *Interview with the author on 23 November 2005*. Cape Town, [Digital recording on CD accompanying thesis].
- ISDEV1 (2005) *Interview with the author on 15 November 2005*. Cape Town, [Digital recording on CD accompanying thesis].
- ISSUPPORT1 (2005) *Interview with the author on 16 November 2005*. Cape Town, [Digital recording on CD accompanying thesis].
- JAMES, M. & JONGEWARD, D. (1996) *Born to Win: Transactional Analysis With Gestalt Experiments*, Da Capo Press.
- JANKOWICZ, A. D. (2000) *Business Research Projects*, Cornwall, Thompson Learning.
- JONGEWARD, D. (1973) *Everybody Wins: Transactional Analysis Applied to Organizations*, Da Capo Press.
- KARPMAN, S. (1968) Fairytales and script drama analysis. *TAB*, 7, 39-43.
- KHOTU, S. H. (2001) *National Health Care Management Information System of South Africa*, [Online] Available: <http://www.doh.gov.za/nhis/docs/nchmis.htm> [June 13, 2005].
- KHUMISI, O., SEOPA, M. & MOKGABUDI, A. (2002) *NHC/MIS Workshop Report*, [Online] Available: http://www.doh.gov.za/nhis/w-shops/nhcmis_report.pdf.
- KIMARO, H. C. & NHAMPOSSA, J. L. (2005) Analyzing the problem of unsustainable health information systems in less-developed economies: Case studies from Tanzania and Mozambique. *Information Technology for Development*, 11, 273-298.
- KING, P. (2003) *Trusting in Reason*, UK, Routledge.
- KLEIN, H. K. & MYERS, M. D. (1999) A Set of Principles for Conducting and Evaluating Interpretive Field Studies in Information Systems. *MIS Quarterly*, 23, 67-93.
- KORPELA, M. (2002) *Socio-economic impact, sustainability and affordability in information systems development in and for Africa (pre-study)*, [Online] Available: <http://www.uku.fi/tike/indehela/inde-acad-plan-2002.pdf> [April 29, 2004].
- KORPELA, M., HANMER, L., DE LA HARPE, R., MACOMED, E., MURSU, A. & SORIYAN, H. A. (2004) *How can African healthcare facilities get appropriate software? Sociotechnical research in the INDEHELA-Context project*, [Online] Available: <http://www.uku.fi/tike/his/indehela/inde-ITHC2004.pdf>.
- KORPELA, M., MURSU, A. & SORIYAN, H. A. (2002) Information systems development as an activity. *Computer Supported Cooperative Work*.
- KREYENBERG, J. (2005) Transactional Analysis in Organizations as a Systemic Constructivist Approach. *Transactional Analysis Journal*, 35, 300-310.
- LANGUAGE, K. E. (2004) Public Healthcare Magazine. *Systems Publishers*, 1. [23-Jan].
- LEAVERTON, P. E. E. & MASSE, L. E. (1984) *Health Information Systems*, New York, Praeger Publishers.

- LERNER, B. & SCHIFFMAN, R. (2004) *Man or Machine: The Vitalistic Model of Health*, [Online] Available: http://www.mercola.com/2004/nov/20/vitalism_health.htm [May 28, 2005].
- LIPPEVELD, T., SAUERBORN, R. & BODART, C. E. (2000) *Design and Implementation of Health Information Systems*, [Online] Available.
- LITTLEJOHNS, P., WYATT, J. C. & GARVICAN, L. (2003) Evaluating computerised health information systems: hard lessons still to be learnt. *BMJ*.
- Logitech (2007), [Online] Available: http://www.logitech.com/index.cfm/mice_pointers/digital_pen/devices/408&cl=us,en [October 15, 2007].
- MAGWAZA, S. M., V. MAGONGANI, B. KORTENHOUT, E. MVO, N. & MAKHANYA, N. (2003) Health Research Capacity Building in South Africa: Current knowledge and practices. . *Health Systems Trust*. Health Systems Trust [Online] Available: ftp://ftp.hst.org.za/pubs/research/research_capacity.pdf [June 11, 2005].
- MATHEWS, V. E. (2003) Analysing the functions, roles and skills of District Information Officers in the implementation of the District Health Information System in South Africa. *Unpublished Masters Thesis at the University of the Western Cape*.
- MAYS, B. E. (1971) *Born to Rebel: An Autobiography*., New York, Scribner.
- MBANANGA, N. & SEKOKOTLA, D. (2002) *The utilisation of Health Management Information in Mpumalanga Province*, [Online] Available: <http://www.hst.org.za> [May 20, 2005].
- Medical, Dental and Supplementary Health Services Professions Amendment Act, Act 89 of 1997. (1997).
- Medicines and Related Substances Amendment Act (Section 18A) Medicine Price Regulations South Africa. . (2002).
- MEDICLINIC (2007), [Online] Available: <http://www.mediclinic.co.za/framesets/fscontacts.htm>.
- MEDICOM (2005) *An Enterprise-wide Implementation of a Hospital Information System*, [Online] Available: <http://www.medicomsoft.com/images/pdf/gauteng.pdf> [May 25, 2005].
- 'Mens Sana In Corpore Sano' - *The Buddha Way - Sound Mind, Sound Body* (2000), [Online] Available: www.bdcublessings.net.au/radio76.html [Nov, 21 2007].
- MERRITT, D. J. (1986) The constitutional balance between health and liberty. . *The Hastings Center Report*., 16, 2-10.
- Millenium Technologies (2007), [Online] Available: <http://www.millentech-systems.com/> [October 16, 2007].
- MILLS, A. H., C. BROOMBERG, J. (1997) Improving the efficiency of district hospitals: is contracting an option? *Tropical Medicine and International Health*, 2, 116–126.
- MINGERS, J. (2001) Combining IS Research Methods: Towards a Pluralist Methodology. *Information Systems Research*, 12, 240-259.
- MINTZBERG, H. (1993) *Structure in fives. Designing effective organizations*. , NJ, Prentice-Hall.
- MOHR, G. (2006) Dynamic Organisational Analysis. <http://www.mohr-coaching.de/pdf/organisational-analysis.pdf>.
- MOHR, G. & STEINERT, T. (2006) *Growth and Change for Organizations - Transactional Analysis New Developments*.

- MOREAU, J. (2005) Using Transactional Analysis to Increase Organizational Performance. *Transactional Analysis Journal*, 35, 355-364.
- Motion Computing (2007), [Online] Available: <http://www.motioncomputing.com/index.asp> [October 15, 2007].
- MOUNTAIN, A. & DAVIDSON, C. (2005) Assessing Systems and Processes in Organizations. *Transactional Analysis Journal*, 35, 336-345.
- MSP (2004) Gauteng Provincial Government (GPG), Department of Health (DOH) Master Systems Plan (MSP). *Unpublished strategic information systems plan done by CS Holdings.*, GPG DOH.
- National Health Act, Act 61 of 2003. (2004) IN GOVERNMENT, S. A. (Ed.).
- NEATH, M. (1995) Evaluating transactional analysis as a change strategy for organizations. *Leadership & Organization Development Journal*, 16, 13-16.
- NEVILLE, D., O'REILLY, S., MACDONALD, D., FARRELL, G., KEOUGH, M. & GATES, K. (2003) Measuring the Impact of Electronic Health Records Projects on Health Outcomes and Costs: An Evaluation Framework. *Abstr AcademyHealth Meet*, 20.
- NURSE1 (2005) *Interview with the author on 17 November 2005*. Cape Town, [Digital recording on CD accompanying thesis].
- NURSE2 (2006) *Interview with the author on 18 January 2006*. Johannesburg, [Digital recording on CD accompanying thesis].
- NURSE3 (2006) *Interview with the author on 18 January 2006*. Johannesburg, [Digital recording on CD accompanying thesis].
- O'DONNELL, M., 1989. (1989) Definition of Health Promotion: Part III: Expanding the Definition. *American Journal of Health Promotion*.
- OH, H., RIZO, C., ENKIN, M. & JADAD, A. (2005) What is eHealth (3): a systematic review of published definitions. *J Med Internet Res*, 7, e1.
- OLIVIERA-CRUZ, V., HANSON, K. & MILLS, K. (2003) Approaches to Overcoming Constraints to Effective Health Service Delivery: A Review of the Evidence. *Journal of International Development*, 15, 41-65.
- OLSEN, R. V. (1984) The Effect of the Hospital Environment; Patient Reactions to Traditional versus Progressive Care Settings. *Journal of Architecture Planning Research*, 1, 121-136.
- ORLIKOWSKI, W. & BAROUDI, J. J. (1990) STUDYING INFORMATION TECHNOLOGY IN ORGANIZATIONS: RESEARCH APPROACHES AND ASSUMPTIONS.
- ORR, N. & PATIENT, D. (2004) *The Healer Inside You*, Cape Town., Double Storey.
- PADMIN (2006) *Interview with the author on 07 March 2006*. Cape Town, [Digital recording on CD accompanying thesis].
- PATIENT1 (2006) *Interview with the author on 18 February 2006*. Cape Town, [Digital recording on CD accompanying thesis].
- PATIENT2 (2006) *Interview with the author on 25 May 2006*. Cape Town, [Digital recording on CD accompanying thesis].
- PEARMAIN, D. (2005) Impact of Changes to the Medical Schemes Act. Hospital Association of South Africa.
- PFMA (1999) Public Financial Management Act. IN GOVERNMENT, S. A. (Ed.).
- PILLAY, Y., MCCOY, D. & ASIA, B. (2001) *The District Health System in South Africa: Progress made and next steps*, [Online] Available: http://www.capegateway.gov.za/Text/2003/district_health_system_sa.pdf.

- PNURSE (2006) *Interview with the author on 02 February 2006*. Cape Town, [Digital recording on CD accompanying thesis].
- PPATIENT (2006) *Interview with the author on 26 May 2006*. Cape Town, [Digital recording on CD accompanying thesis].
- PPP in Healthcare: Inkosi Albert Luthuli Central Hospital - SA (2004), [Online] Available: <http://www.medicomsoft.com/> [May 25, 2005].
- PRIVADMIN (2006) *Interview with the author on 07 March 2006*. Cape Town, [Digital recording on CD accompanying thesis].
- Professional Practice Model (2003), [Online] Available: http://web.uccs.edu/bethelstudenthandbook/definition_of_curriculum_terms.htm.
- RAMOND, C. (1996) Systemic Analysis of Games. *Transactional Analysis in Organisations 1974-1994*, 1, 110-115.
- RATH, M. (2002) *Health for All by the Year 2020: A Sustainable World Must Be a Healthy World*, [Online] Available: http://www.drrathresearch.org/about_drrath/sa_summit.pdf.
- ROODE, J. D. (1993) Implications for Teaching of a Process-Based Research Framework for Information Systems. *Proceedings of the International Academy for Information Management, Eight Annual Conference*.
- ROTICH, J. K., HANNAN, T. J., SMITH, F. E., BII, J., ODERO, W. W., VU, N., MAMLIN, B. W., MAMLIN, J. J., EINTERZ, R. M. & TIERNEY, W. M. (2003) Installing and Implementing a Computer-based Patient Record System in Sub-Saharan Africa: The Mosoriot Medical Record System. *Journal of the American Medical Informatics Association*, 10, 295.
- RUSSELL, B. (2007) *Mysticism and Logic*, Spokesman Books.
- SAHR. (1999) *South African Health Review*, [Online] Available: <http://new.hst.org.za/news/index.php/20000203/>.
- SAUNDERS, M., LEWIS, P. & THORNHILL, A. (2000) *Research Methods for Business Students*, Essex., Pearson Education Limited.
- SCHEIN, E. H. (1992) *Organizational culture and leadership*, Jossey-Bass San Francisco.
- SCHMID, B. & MESSMER, A. (2005) On the way to a Culture of Responsibility in Organisations: Concepts of Symbiosis Revisited. *Transactional Analysis Journal*, 35, 324-332.
- SCOTT, D., CURTIS, B. & TWUMASI, F. O. (2002) Towards the creation of a health information system for cancer in KwaZulu-Natal, South Africa. *Health & Place*, 8, 237-249.
- SEKARAN, U. (2003) *Research Methods for Business: A Skill Building Approach*, New York, John Wiley & Sons, Inc.
- SEN, A. (2000) *Development as Freedom*, Anchor.
- SHARIFI, H., KEHOE, D. F. & BURNS, N. D. (2004) A structured framework for analysis and understanding of factors impacting the effective application of e-marketplaces. *International Journal of Automotive Technology and Management*, 4, 394-410.
- SHEAF, R. & PEEL, V. (1995) *Managing Health Service Information Systems*, Buckingham., Open University Press.

- SILVA, L. (1997) Power and politics in the adoption of information systems by organisations: The case of a research centre in Latin America. University of London.
- SIMHAN, R. (2002) *Tapping health from hospital. Business Line: Internet Edition.*, [Online] Available: <http://www.blonnet.com/ew/2002/09/18/stories/2002091800290300.htm> [June 8, 2005].
- SIMPSON, R. (1998) Information Technology: Soul of the Organisation. *Nurs. Admin. Q.*, 22, 88-90.
- SMITH, J. (2001a) *Transactional Analysis: A Pictorial Reference to the basic concepts of TA*, Australia., Edugraphics.
- SMITH, M. K. (2001b) *Kurt Lewin, groups, experiential learning and action research*, [Online] Available: <http://www.infed.org/thinkers/et-lewin.htm> [February 29, 2004].
- SMITH, R. (2001c) Why are doctors so unhappy? *BMJ* 322:1073-1074. <http://bmj.bmjournals.com/cgi/ijlink?linkType=FULL&journalCode=bmj&resid=322/7294/1073>.
- SNYMAN, M. & SNYMAN, R. (2003) Getting information to disadvantaged rural communities: the centre approach. *SA Journal of Library and Information Science*, 69, 95-107.
- SOMMERTON, O. (1979) *Transactional Analysis-An introduction to basic concepts*, New Delhi., Manohar.
- STATEMENT., G. B. (2005) Gauteng Provincial Government Budget Statement, 2004/2005. Available: *The Head Official of Treasury, Department of Finance and Economic Affairs, GPG, Private Bag X091, Marshalltown, 2107.*
- STEINER, C. (1974) *Scripts People Live: Transactional Analysis of Life Scripts*, New York., Grove Press.
- STEWART, I. & JOINES, V. (1987) *TA Today: A New Introduction to Transactional Analysis*, Lifespace.
- STOCKING, B. & MORRISON, S. (1978) *The image and reality: a case study of the impacts of medical technology*, London, Oxford University Press.
- STRATEGY, H. (2007) *Comprehensive Service Plan for the Implementation of Healthcare 2010*, [Online] Available: http://www.capecgateway.gov.za/other/2006/9/summaryserviceplan_sept_06_15.pdf.
- TANSER, F., HOSEGOOD, V., BENZLER, J. & SOLARSH, G. (2001) New approaches to spatially analyse primary health care usage patterns in rural South Africa. . *Tropical Medicine and International Health*, 6, 826-838.
- Tao Te Ching (2006), [Online] Available: <http://www.religiousworlds.com/taoism/ttcstan3.html> [16 Feb 2006].
- Tech Health Summit (2007) *Taking Healthcare Delivery, Education and Management to Greater Heights through ICT's*. Indaba Hotel, Midrand, IQPC.
- TEMPLE, S. (1999) Functional Fluency for Educational Transactional Analysts. *Transactional Analysis Journal*, 29, 164-74.
- THAYER, L. (1993) Deconstructing Information. *Between Communication and Information*.
- ULRICH, R. S. (1991) Effects of Health Facility Interior Design on Wellness: Theory and Recent Scientific Research. *Journal of Health Care Design*, 3, 97-109.

- UNGER, J. P. M., J. BREDO, F. & BOELAERT, M. (2000) Through Mintzberg's glasses: a fresh look at the organization of ministries of health. . *Bulletin of the World Health Organization*, 78, 1005-1014.
- UWM (2005) *Review of Literature*. University of Wisconsin-Madison: Writing Center., [Online] Available: <http://www.wisc.edu/writing/Handbook/ReviewofLiterature.html> [June 10, 2005].
- UYS, W. F. (2007) eHealth: Vitalistic and Sapping Systems. IN TIAINEN, T. I., H. KORPELA, M. MURSU, A. NYKÄNEN, P. PAAKKI, M. & PEKKOLA, S. (Ed.) *Proceedings of the 30th Information Systems Research Seminar in Scandinavia IRIS*. Murikka, Finland, Department of Computer Sciences, University of Tampere.
- VAN'T RIET, A., BERG, M., HIDDEMA, F. & SOL, K. (2001) Meeting patients' needs with patient information systems: potential benefits of qualitative research methods. *Int J Med Inform*, 64, 1-14.
- VAN POELJE, S. & STEINERT, T. (1996) Transactional Analysis in Organisations: First volume of selected articles 1974-1994. ITAA.
- VAN RENSBURG, H. C. J., FOURIE, A. & PRETORIUS, E. (1992) *Health Care in South Africa: Structure and Dynamics*, Academica.
- WADEE, H., GILSON, L., THIEDE, M., OKORAFOR, O. & MCINTYRE, D. (2003) Health care inequity in South Africa and the public/private mix. Geneva: University of Geneva (UNIGE). http://www.ruig-gian.org/ressources/comeliau-health_SouthAfrica-Wadee-Gilson-Thiede-Okorator-McIntyre.pdf.
- WANG, B. B., WAN, T. T. H., BURKE, D. E., BAZZOLI, G. J. & LIN, B. Y. J. (2005) Factors Influencing Health Information System Adoption in American Hospitals. *Health Care Management Review*, 30, 44-51.
- WANG, S. J., MIDDLETON, B., PROSSER, L., BARDON, C. G., SPURR, C. D., CARCHIDI, P. J., KITTLER, A. F., GOLDSZER, R. C., FAIRCHILD, D. G., SUSSMAN, A. J., KUPERMAN, G. J. & BATES, D. W. (2003) A cost-benefit analysis of electronic medical records in primary care. *American Journal of Medicine*, 114, 397-404.
- Web MD (2007), [Online] Available: <http://www.webmd.com>.
- What is eHealth? (2006), [Online] Available: <http://www.ehealthtechnologies.com/what%20is%20ehealth.htm>.
- WHO (2002) Strengthening National Health Information Systems: Workshop on the use Geographical Information System HealthMap.
- WIKIPEDIA (2007) *The Free Encyclopedia*, [Online] Available: <http://www.wikipedia.org>.
- WILLIAMSON, L., STOOPS, N. & HEYWOOD, A. (2001) Developing a district health information system in South Africa: a social process or technical solution? *Medinfo*, 10, 773-777.
- WOOLLAMS, S. & BROWN, M. (1978) *Transactional Analysis*, Michigan., Huron Valley Institute.
- ZELDER, M. (2000) How Private Hospital Competition Can Improve Canadian Health Care. . *Public Policy Sources*., 35, 10-21.

“It is mindfulness, ultimately,
that is the key to a healthy mind and a healthy body”
(‘Mens Sana In Corpore Sano’ - The Buddha Way - Sound Mind, Sound Body, 2000)

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