DIGITAL MEDIA AS COMMUNICATION TOOLS FOR HEALTH PROMOTION IN MANAGED HEALTH CARE

by

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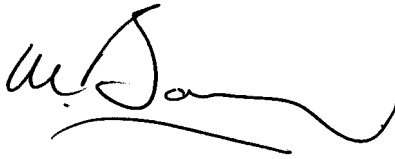
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DECLARATION

I hereby declare that the dissertation submitted for the MA degree to the University of Pretoria, apart from the help recognised, is my own work and has not been submitted to another university for a degree.

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**Health is a 'set of collective behaviours that are formed
and influenced through communication processes
in the context of aggregate social
relationships and contacts'**

(Finnegan & Viswanath, 1990:22).

SUMMARY

Two important developments took place within health care during the latter part of the twentieth century. The first was the realisation that health consumers must be assisted to improve their own health and well-being. This is done through health promotion, which is the process whereby people are empowered to increase control over the various factors that determine health. It includes all interventions that could promote health and prevent disease and disability. Its goals encompass preventative health, curative health and rehabilitation. It is therefore an integral part of health care.

For health promotion to take place, members of the public must have sufficient health information and the necessary attitudes and skills to use this information effectively in the management of their own health.

The second development is known as managed health care. A method was sought through which costs could be contained while the quality of care was ensured. It is generally believed that the only mechanism available today to reach these objectives is managed health care.

The goals of managed health care can only be met through greater participation in health decision making and when individuals are willing to take more responsibility for their own health. Thus health promotion becomes a requirement. Health promotion, with its focus on the consumer, is a pivotal point on which the success of managed health care depends.

The complexity of and the barriers in health communication necessitate the careful consideration of appropriate media to enhance and improve the success of communication. Various communication media are available, but to date little research has been done to assist the communications manager/specialist in the selection and utilisation of digital media for health promotion. To prevent costly and inappropriate application of digital media, this research was undertaken to shed light on:

- the requirements of successful communication for health promotion and factors influencing the success;
- attributes of digital media that may influence their suitability for health promotion; and
- contributions of digital media towards effective health communication.

The results of this research indicated that digital media are well suited to health promotion, provided that the criteria for successful communication are met. Although all communication cannot be replaced by digital communication, much can be gained by incorporating digital media in the communication efforts aimed at health promotion. For example, the utilisation of digital media could result in increased client control and customisation of information. Better transfer of information and knowledge and better retention of messages can take place. In addition, digital communication can improve compliance, feedback and support, and can overcome time and geographical constraints. It can also help to overcome a lack of communication skills.

OPSOMMING

Twee belangrike ontwikkelings in gesondheidsorg het gedurende die laaste gedeelte van die twintigste eeu plaasgevind. Die eerste was die besef dat gesondheidsorgverbruikers gehelp moet word om hulle gesondheid en welstand te verbeter. Dit word gedoen deur middel van gesondheidspromosie, wat die proses is waardeur mense in staat gestel word om hulle beheer oor die verskillende faktore wat gesondheid bepaal, uit te brei. Die doelstellings omvat voorkomende, kuratiewe en rehabilitasiegesondheid. Dit is daarom 'n integrale deel van gesondheidsorg.

Vir gesondheidspromosie om te kan plaasvind, moet lede van die publiek genoeg gesondheidsinligting hê en oor die nodige houding en vaardighede beskik om die inligting doeltreffend in die bestuur van hulle eie gesondheid aan te wend.

Die tweede ontwikkeling staan bekend as bestuurde gesondheidsorg. 'n Metode is gesoek waardeur die koste van sorg in toom gehou word terwyl die kwaliteit van sorg verseker word. Daar word algemeen geglo dat bestuurde gesondheidsorg die enigste meganisme is wat vandag beskikbaar is om hierdie doelstellings te bereik.

Die doelstellings van bestuurde gesondheidsorg kan slegs bereik word wanneer individue deelneem aan besluitneming en mede-verantwoordelikheid vir hulle gesondheid aanvaar. Op die wyse word gesondheidspromosie 'n vereiste. Gesondheidspromosie met sy fokus op die verbruiker word die spilpunt waarom die sukses van bestuurde gesondheidsorg draai.

Die kompleksiteit van en die hindernisse inherent aan gesondheidskommunikasie maak dit noodsaaklik dat die aanwending van media versigtig oorweeg moet word om toe te sien dat die kommunikasie versterk en die sukses daarvan verhoog word. Verskeie kommunikasiemedia is beskikbaar vir gesondheidspromosie maar tot op hede is min navorsing gedoen om die kommunikasiebestuurder/-kundige te help in die keuse en benutting van digitale media. Om duur en ontoepaslike toepassing van digitale media te verhoed, is hierdie navorsing onderneem om lig te werp op die:

- vereistes van suksesvolle kommunikasie vir gesondheidspromosie en die faktore wat die sukses van die kommunikasie beïnvloed;
- eienskappe van digitale media wat 'n invloed mag hê op die aanwending daarvan vir gesondheidspromosie; en

- bydrae wat digitale media tot effektiewe gesondheidspromosie kan maak.

Die resultate van hierdie ondersoek het getoon dat digitale media wel geskik is vir gesondheidspromosie wanneer die kriteria vir suksesvolle kommunikasie nagekom word. Alhoewel alle kommunikasie nie met digitale kommunikasie vervang kan word nie, kan veel gewen word deur digitale media te inkorporeer by ander kommunikasiepogings gemik op gesondheidspromosie. So, byvoorbeeld, kan die benutting van digitale media lei tot groter verbruikerbeheer en die aanpassing van inligting vir spesifieke verbruikers. Oordrag van inligting en kennis, en retensie van boodskappe kan verbeter word. Hierby kan digitale kommunikasie nakoming van behandeling, terugvoer en ondersteuning verbeter, en tyd en geografiese beperkings oorbrug. Dit kan ook help om 'n gebrek aan kommunikasievaardighede te oorkom.

Sleutelterme: Gesondheidspromosie, gesondheidskommunikasie, gesondheidsinligting, bestuurde gesondheid sorg, digitale media, elektroniese media, elektroniese publikasies, gesondheidsorg, gesondheid, welstand, kommunikasie

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Chapter 1 Introduction

1.1 Background

Inappropriate health care, over-servicing of patients and over-utilisation by patients, coupled with high medical inflation, have led to a situation where the future of health care, as we know it, is in jeopardy. In many instances, health care has become unaffordable. It is generally believed that the only mechanism available today to ensure the continued existence of good quality health care is managed health care. Through managed health care

...the individual is helped to

- remain as healthy as possible;
- get healthy as quickly as possible after an illness;
- obtain high quality, appropriate health care; and
- keep health care affordable (*Finansies en tegniek*, 11 July 1997:10).

...the medical fund is helped to

- remain competitive in the market;
- ensure satisfied membership;
- control costs; and
- improve the quality of health care.

...the funders of medical aid are helped to

- get their money's worth;
- ensure a satisfied work force; and
- control absenteeism.

In principle, managed health care is an acceptable philosophy that supports cost-effective health care and simultaneously maintains or improves the quality of care. On the individual level, health promotion has become a critical component for reaching the aims of managed health care. The ultimate purpose of managed health care cannot be achieved without the cooperation and commitment of health care consumers.

Health promotion, with its focus on the consumer, is a pivotal point on which the success of managed health care and continued health care on the one hand, and improved health on the

other hand, depends. Through information and consequent behavioural change these ideals may be reached. However, the effective communication of health information to the public places a high demand on the utilisation of innovative communication channels and tools.

The fact that digital media have become readily available may lead to a temptation to apply new technology haphazardly to reach the aims of managed health care. However, 'technology should always be a tool – a means, not an end' (Swan, 1996:30). To prevent costly and inappropriate application of digital media, a sound knowledge of the advantages and disadvantages of each medium is required, as well as a sound knowledge of the requirements for successful communication in health care settings.

1.2 Problem statement

Even though communication managers in the health care industry usually are well versed in traditional communication media and their attributes, the opportunities offered by electronic publications through digital media are often underutilised. This may be due to a lack of understanding the suitability to task of such media or a lack of knowledge about the media itself. The communications manager is often confronted with the decision on whether to use digital media and, if so, which medium, without having the necessary insight and knowledge to make such a decision.

To date, little research, if any, has been done to assist the communications manager/specialist in a health care setting in his/her choice of digital media. The purpose of this research was therefore to investigate the requirements of successful health promotion and the attributes of digital media available today, and to establish the contribution each could make towards the effective provision of information for health promotion. On the grounds of this research guidelines were formulated to enable the communications manager to apply digital media successfully.

The research questions therefore are the following:
- What are the requirements of successful communication for health promotion?
- Which factors influence the success of communication for health promotion?
- What are the attributes of digital media that could determine their suitability towards communication for health promotion?
- What contribution can be made by the various digital media towards effective communication for health promotion?

1.3 Methodology

The research was based on a literature survey of digital media, digital communication, health promotion and the communication processes related to digital media.

As both managed health care and digital media are recent developments, the literature search on this aspect was limited to the last 15 years. Both these developments originated in the English-speaking countries. In the case of South African publications, Afrikaans sources were included. Communication *per se* and theories on health communication are not new disciplines or developments and therefore the survey of definitions and principles was not restricted to recent sources.

1.4 Definitions

1.4.1 Digital media

An electronic publication is a collection of pages of electronic information in digital format that can be shown on a suitable screen. The means used to transfer or access the digital information is called a digital medium. Electronic publication usually takes place within a network environment, be it the Internet, intranet or extranet, or a smaller, private or local area network. Electronic impulses can also be transferred to other digital media, namely CD-ROMs and DVDs.

1.4.2 Communication tools

Originally tools were designed as extensions of human skills and talents. A communication tool therefore extends the human activity of communication. As a tool the computer has the ability to communicate world views and information from tool developers to tool users in order to assist the user in dealing with and understanding the environment. Essentially three types of communication are involved in computerised tools: Communication between tool developers and tool users, communication between tool users and tool developers, and communication among tool users (Day & Kovacs, 1996:vii).

1.4.3 Health promotion

Health promotion is the empowerment of health care consumers to increase their control over the factors that may influence their health, with the aim of improving their health and well-being. Health information is therefore needed to facilitate decision making, problem solving and the expansion of knowledge regarding the individual's personal health, the availability of health care

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and the mechanisms for delivery. Through mass, group and personal communication, all levels of a community can be reached and educated to change behaviour towards better health for all members of a community, thus promoting health.

1.4.6 Managed health care

Managed health care is a mechanism to ensure the continued existence of good quality health care at an affordable price. It is practised within the medical fund industry. It is defined as 'an arrangement through which utilisation of healthcare is monitored through the use of mechanisms which are designed to monitor appropriateness, promote efficacy, quality and cost-effectiveness of the delivery of relevant health services' (Prins, 2000:10).

1.5 Organisation of chapters

To determine the value and possibilities of digital media as communication tools for health promotion, it was first necessary to determine the inherent attributes, possibilities and status of the various digital media. A report of this research is given in Chapter 2. Health promotion is discussed in Chapter 3. Matters receiving attention include the development of managed health care, the health care environment, the objectives of health promotion within a managed health care environment and the needs and problems particular to the South African situation. In Chapter 4 follows an introduction to communication, the requirements for successful communication and an identification of the pertinent characteristics of digital communication. The characteristics, objectives and problems of health communication receive attention in Chapter 5. Considerations particular to health communication are discussed, as well as health promotion campaigns and health marketing. Advantages of using digital media as communication tools for health promotion are given in Chapter 6. This discussion is based on both the nature of the media and the nature of health communication. Digital media's suitability to task within health care settings is discussed in Chapter 7, followed by the conclusion in Chapter 8.

Chapter 2 Digital media

2.1 Introduction

A medium is the means by which something is communicated (*The Oxford dictionary and thesaurus*, 1995:949). Media are utilised as an intermediary communication delivery system using some form of technology (Kreps & Thornton, 1992:144). As extensions to human communication, a medium is an object that carries a message, or which allows expression of a message and enables one to receive a message via one's senses. A medium is used to 'increase the visibility of a message, to promote its comprehensibility or to guarantee its distribution' (Fouconnier, 1985:45). It enables people to communicate with others who are far away, to receive messages, to access images and to reach more people in less time and through different time zones than through non-mediated communication channels. Modern health care services depend upon the use of media as communication tools, and it is expected that these uses and applications will continue to expand in the future (Kreps & Thornton, 1992:144).

Digital media are used to communicate messages that originated in or were converted into digital electronic impulses. 'Digital' in this instance refers to the representation of data 'as a series of binary digits' as used in or by a computer (*The Oxford dictionary and thesaurus*, 1995:405). Digital media currently available are CD-ROM, DVD, and the Internet.

Digital media are characterised by increased user control, specialised and extended content, speedy transmission, and non-linear access. The digital media of today have many attributes that enhance communication.

The first of these is multimedia, that is text, illustrations, video, sound and animation. This attribute has led to the creative utilisation of digital media for the dynamic transfer of information, knowledge, entertainment, assistance, etc. The use of multimedia enhances and facilitates the understanding of information because various senses are involved in the decoding of messages. Even illiterates may therefore benefit from digital media.

Interactive multimedia has the most impact, owing to the fact that participation enhances understanding and retention of messages. It is generally recognised that 'active learning provides a superior experience to passive learning, a notion that can be traced back at least as far as

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Dewey' (Patkin, 1996:173). Students participating in 'responsive learning environments ... not only retain more information but also manifest a fuller understanding of the information presented' (1996:173). As in computer games (Friedman 1995:78; Phelan, 1996:41), interactivity renders an opportunity for 'role playing' in which the participant is given the opportunity to identify with the character on the screen. The challenge is to present the user with an opportunity to exert some control over the interaction with the information on the screen and/or with the power to make decisions that would influence the outcome. State of the art is virtual reality. These media are described as 'tools to amplify the mind' and 'computer-generated viewing devices, acoustical chips, and sensors that provide individual users with multiple sensory information – sound, sight, touch – to simulate real or fantastic environments' (Kramarae, 1995:36).

Another attribute of digital media is their ability to link stored messages in a non-linear manner, known as hypertext. Hypertext is software that allows many different texts, illustrations, sound, animation and video within a particular document, but also those in other documents, to be linked, so that new, related information can be accessed by clicking on a keyword, link or button. The result is a network of information, for example, the World Wide Web. The user can choose to read in many alternative directions (Friedman, 1995:74, 78). An advantage of hypermedia is that the user may choose to retrieve specific sections or levels of information.

In general, digital media save time and money. In an ever-changing society where information has to be up to date, electronic publications offer a considerable advantage. The same information can be used simultaneously by various users, thereby obliterating the need for costly duplication and storage of information. A potentially large number of users can therefore be reached.

Through digital media, complete documents of electronic publications become available online, without any time or geographic constraints. Information therefore becomes universally accessible and, through hypertext, virtually unlimited. It becomes available upon request and the distribution is effortless. Through printers connected to a computer, the information can also be delivered in a paper-based format.

Digital media today still have a number of disadvantages, such as uncertainty regarding the authoritativeness and reliability of information, copyright and, especially in South Africa, limited accessibility. In some cases the quality of the publications may be suspect, mainly due to the

quality of the hardware (e.g. low-resolution or small screens) being used to access the publications rather than the design and production.

Digital media can be used as mass communication tools, group communication tools or personal communication tools. A CD-ROM viewing over a large screen in a community clinic hall is an example of a large group communication medium. The Internet, although it has the potential to reach millions of people, and is therefore a mass communication tool, normally is experienced as an individual and personal communication medium at the instant of access. A DVD accessed in the family lounge is a small group communication tool.

Balint (1996:33) gives a list of elements that he considers to be some of the processes enhanced by digital communication:

- Acquisitioning of information;
- storage, sorting, merging and retrieval of transmitted information;
- translation, formalisation, re-recording, analysis, and re-synthesising of human-to-human messages;
- filtering, adjusting and correcting (as well as storage) of selected key facts from the messages;
- the transfer of mental models which is performed with high fidelity via suitable decoding/encoding of messages; and
- appropriate expertise (i.e. some form of artificial intelligence) and a related knowledge-base which can be built into the applied computer/interfaces.

2.2 CD-ROM

CD-ROMs are flat, shiny disks of 12 cm in diameter on which information is stored in digital format on one side by way of a laser beam. They developed from the compact audio disk and the first one was demonstrated in 1983. They became commercially available in 1985. Recently, differently shaped disks, for example, oval ones, have also become available.

CD-ROMs contain text, illustrations, sound and video information. The information is accessed through a CD-ROM drive and interaction with the information is possible.

Advantages particular to CD-ROMs include their large storage capacity, excellent portability, durability, interactivity and quick access to information. CD-ROMs have an expected lifetime of 100 years and are therefore most reliable (*PC magazine*, 7 February 1995:254).

Initially, however, the hardware to produce and access CD-ROMS was expensive, CD-ROMS could only be written once and could only be used by one workstation at a time. Today most of these disadvantages are no longer applicable. Difficulties still experienced by users include unique interfaces and multiple retrieval systems. It is impossible to integrate the contents of multiple disks and they have to be managed and stored. It is fairly complicated to make CD-ROMs available over a network and therefore information technology expertise is required (Butter, 1994:76).

2.3 Digital Versatile Disk (DVD)

A fairly recent development in digital media is the digital versatile disk (DVD). In appearance it resembles a CD-ROM but it contains more than 500 lines of horizontal resolution (*Finansies en tegniek*, 8 August 1997:57). A standard DVD holds about 7.5 times more data than a CD does, and there are different disk sizes available. Of these disks some can contain more than 4.7 gigabytes per disk. This capacity can be increased to almost 17 gigabytes on double and dual-layered disks (Brown, 2000; *PC magazine*, 12 March, 1996:34). One DVD could contain every song ever recorded by the Beatles, the entire Star wars movie trilogy or a stack of novels as high as the Empire State Building (*Beyond 2000*, 3 October 1997). This medium is considered ideal for huge, multi-language databases (*PC magazine*, 12 March, 1996:34).

The greatest advantage, however, lies in its possibility for interactivity (*Beyond 2000*, 3 October 1997). The user can decide on what he or she actually wants to focus. For example, should a demonstration be given of the correct method to administer an asthma inhaler, instead of watching the complete image the viewer can zoom in on the patient's chest to determine the correct breathing rhythm or on the hand holding the device to concentrate on the correct depression to release the medication, or on the mouth to concentrate on the correct position of the device in the mouth. As stated above, multilingual sound can be made available and can be chosen by the press of a button.

The initial penetration of DVD into the market occurred through the entertainment media. More than one million DVD units were sold in 1998 and sales of more than 6.5 million are expected for 2000 (Pescatore, 2000). Already numerous movies have been released in this format. Duplication of DVDs is even cheaper than video tapes (VHS), namely $1.50 as opposed to $2–$3 (*Beyond 2000*, 3 October 1997). At present, however, DVD players are expensive at about R5 500 (*Finansies en tegniek*, 8 August 1997:57). Home recording systems have been available since the end of 1999 at a price of US$2 400 (i.e. about R17 000) (Gray, 1999).

Although the first target for DVDs has been the entertainment market, it is believed that the high quality and ease of use will quickly bring new applications for corporate use, especially regarding training and marketing (*Finansies en tegniek*, 8 August 1997:57). With DVD, an integrated hybrid PC/TV system is coming closer to reality, a development that will change the face of broadcasting, home entertainment and information access dramatically (*Beyond 2000*, 3 October 1997) (see also 2.5).

2.4 Internet

The Internet is a loose amalgamation of literally thousands of computer networks and millions of users throughout the world. The main purpose of the Internet is the distribution of information through standardised protocols. Information becomes accessible through navigators such as the World Wide Web, Gopher and FTP. The Internet is generally seen as an international but complex communication medium that has changed the speed, quality, processing, retrieval and transmission of information for ever. It is the main medium for the distribution of digital publications.

The Internet has already development into extensions, namely intranets and extranets. An intranet is an internal version of the Internet, a 'private' World Wide Web-based network that gives a company's personnel and business partners access to important company information, regardless of the platform being used, by converting company documents into HTML (*Finansies en tegniek*, 26 September 1997:41). An extranet is a combination of some components of an organisation's internal network with the network of a client(s) to form a seamless integrated system.

The World Wide Web is the most popular network accessible to the general public. Research indicates that over 50% of the pages on the Web contain graphic images, that the average home page contains 1 050 words and that over 87% of the pages are written in HTML. In the beginning of 1998, there were already about 50 million pages on the Internet (*State of the Internet*, 18 February 1998). In September 2000 there were 22 375 376 registered Internet domain names and over a billion documents on the Web (Inktomi WebMap, 2000; Netfactual, 2000).

The advantages of the Internet (and intranets and extranets) are consistent with the advantages of digital media in general.

Internet applications are, for example

- electronic mail (e-mail);
- electronic journals;
- electronic newsletters;
- electronic forums, bulletin boards and conferences (collectively called newsgroups);
- electronic document delivery; and
- electronic databases.

Research done in April of 1997 in Europe indicated that 38% of European companies use the Internet for trading with other companies, 37% for trading with consumers, 74% for communicating with clients, 85% for the collection of information, 45% for new market penetration and 62% to recruit new clients (*F&TNet*, 18 July 1997.)

In South Africa, the number of new subscribers to the Internet is growing by 15 000 per month. In 1997, the number of dial-up users was 100 000 and five to six times more had access through fixed lines at their places of work (*Finansies en tegniek*, 5 September 1997:63). South Africa's growth is determined by the technology revolution, the electrification process and the growth of the telecommunication network (*Finansies en tegniek*, 22 August 1997:22). Schools, clinics, libraries, and community centres were identified by the South African government as priorities for the telecommunications network (*The Citizen*, 21 January 1998b:12). In the government's framework for the development of a national information and communication strategy, 'attention is given to the improvement of the technology capacity of the government, improving service offered to all citizens by offering a one-stop shop through the use of smart cards and public information terminals, and developing legislation on cyberlaws' (Mason, 1998).

Of importance to any company wishing to educate and change the behaviour of people is access to young people. Many efforts are underway to connect South Africa's schools to the Internet. By the end of 1996 only 1% of all schools in the country had access to the Internet. In the Western Cape, 53% had access, in Gauteng 20%, Eastern Cape 18% and KwaZulu Natal 8%. However, a number of projects are underway to increase connectivity drastically (Acacia Activity Database, 2000; *Finansies en tegniek*, 4 July 1997:51; SchoolNet press release, 1999).

Studies indicate that the Internet is used firstly for communication and secondly for information (*State of the Internet*, 18 February 1998). The commercial sector is believed to be growing at a faster rate than any other sector (*Internet statistics*, 18 February 1998).

The most serious problem experienced with the Internet in South Africa is the slow speed of retrieval, mainly due to insufficient bandwidth. To exacerbate the problem, South Africa does not have a local peering point, which means that Internet traffic has to be relayed through overseas countries before local information can be retrieved *(Finansies en tegniek*, 17 October 1997:9).

The sheer size and scope of the Internet have led to new initiatives to split the access routes to the Internet into two: one that gives access to serious communication and information and the other to entertainment. The plans are known as Internet2 and Next Generation Internet (NGI) in America and the TEN-34 Consortium in Europe. These initiatives plan to make real-time video, sound and virtual reality available at 2.4 gigabytes or more per second (*Sake-Rapport*, 29 March 1998:14). High-speed modems are also being developed by Intel, Compaq Computer and Microsoft (*The Citizen*, 21 January 1998a:12).

Particularly for the commercial and health business sector, security has been a problem until now. However, many solutions are forthcoming. Mitsubishi Electric Corporation in Japan, for example, has developed a fingerprint identification system for the Internet to verify access to membership services. This system could replace passwords (*The Citizen*, 16 February 1998:16).

2.5 Added value of integrated digital media

Balint (1996:33) sees the role of intelligent machines as bridging gaps in mental models. 'A sufficiently capable computer ... should translate, formalise, analyse and re-synthesise human-to-human communications. Such machines would need to capitalise upon knowledge of communicating individuals' mental models to make adjustments for messages exchanged...' (Day & Kovaks, 1996:viii). In digital communication, the source and target of communication can be human or machine (Balint, 1996:33). The ideal is where the two interact seamlessly, that is, human-to-computer, human-to-human (via a medium), computer-to-computer, computer-to-human. This is also the aim of fully integrated media.

In practical terms this means that a user will be able to access both the Internet and a television programme from a single hardware apparatus, send a voice-input e-mail message and phone a

friend from this hardware, etc. If such hardware incorporates the characteristics of all digital media (e.g. CD-ROM, the Internet, DVD), it would add immense value for the user. Current developments in digital television (DTV) in the USA seem promising. In addition to television data, Web content, stock reports, electronic coupons or even a telephone directory can be sent using 'opportunistic' of left-over bandwidth. In other words, both television and non-television data, or a combination, can be accessed (What is digital television?, 2000). Clearly these developments are another step in the direction towards fully integrated media.

A new form of integrated media is already available which may have a positive influence on health communication, namely that of wireless application protocol (WAP) technology. 'Wap is a set of application communication protocols that allow wireless and hand-held communication devices (like all phones, pagers and handheld PCs) to access Internet services and information, and Web sites to format content so that it can be read on these devices' (Melzer, 2000). According to Melzer, the SA ratio of mobile phones to personal computer is roughly five to one.

2.6 Evaluation

Although digital media have not yet reached their zenith, they offer many advantages. Aspects that have a bearing on health promotion are the following:
- Digital media are communication tools;
- information in analogue format can be converted to digital format;
- interesting presentation of information takes place through multimedia;
- multimedia enhance and facilitate understanding because various senses are involved;
- multimedia carry messages even for illiterates;
- interactive multimedia enhance understanding and retention of messages through user participation;
- interactive multimedia facilitate role playing and identification with a particular person or situation;
- interactive media may empower a user to make decisions regarding information presented by the medium;
- hypermedia present the possibility to retrieve specific sections or levels of information;
- digital media save time, and information can be kept up to date;
- digital media save money regarding distribution, storage and printing;
- the same information can be used simultaneously by various users in various digital publications;

- there are no time or geographic constraints;
- information is available upon request;
- digital media can be used as mass, group or personal communication tools;
- processing of transmitted information is uncomplicated;
- pre-printing processes are cost and time effective;
- the fidelity of messages can be ensured to a great extent;
- the design of the publication and the interface could enhance communication;
- CD-ROMs have large storage capacity, durability, portability, interactivity and give quick access to information;
- DVDs can be used for huge databases, especially multilingual ones;
- DVDs have enormous potential for interactivity;
- with DVD, an integrated hybrid PC/TV system is coming closer to reality; and
- the Internet facilitates document delivery.

If these attributes of digital media are needed for and can indeed be applied to ensure successful health communication, digital media have an important role to play in the promotion of health. However, before an assessment can be made of their contribution to the communication of health information, the connection between health communication, health information and health promotion had to be investigated. In the following chapter, health promotion is explained as well as its place within managed health care, and the relevant connections.

Chapter 3 Health promotion in managed health care

3.1 Health promotion

In the Ottowa Charter for Health Promotion of 1986, health promotion is described as 'the process of enabling people to increase control over the determinants of health and thereby improve their health' (Meyer-Weitz 1995:6). Health promotion can be seen as 'any deliberate intervention which seeks to promote health and prevent disease and disability' (Tones 1986:3). It incorporates health education and 'any combination of health education and related organisational, economic and environmental supports for behavior conducive to health' (Finnegan & Viswanath, 1990:18).

Such a wide definition ties in with the World Health Organization's well-known definition of health, namely, that it is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity.

Within health promotion, a number of approaches or perspectives are possible (Tones, 1986:3). The focus could be on

- positive health in which well-being is advocated rather than avoidance of damage-causing behaviour, for example, doing exercise for pleasure rather than protection of one's cardiovascular system;
- the development of performance indicators and the development of specific objectives, for example, to decrease the number of heart attacks of a population by 20% by bringing the total cholesterol level of a population down to below 5.2 mmol/L;
- the adoption of media-marketing approaches, such as 'do not drink and drive' campaigns;
- the use of political tactics to achieve social and environmental change, for example the approved medication list to change the economic environment of health care; and
- a belief in the importance of community participation (e.g. the supply of clean drinking water to disadvantaged communities) and the demystification of medicine.

The scope of health promotion was detailed at a conference on primary health care at Alma Ata in 1978 (Tones, 1986:5). Five principles were identified, namely, that

1. health promotion should focus on whole populations rather that on disease-specific at-risk groups;

2. all the factors influencing health should be addressed to create an environment conducive to health;

3. health promotion requires the full participation of a community, that is, both individual and collective participation;

4. health promotion must use a wide variety of complementary strategies and agencies, for example, communication, education, legislation, and community development; and

5. medical professionals have a part to play in health promotion through education and advocacy, especially on the primary care level, but because of their orientation towards disease prevention, their contribution should be limited.

From the above it is clear that health promotion is an integral part of health care and its goals encompass preventative health, curative health and rehabilitation. Efforts of health promotion are directed at both whole populations and their environments (macro level), and individuals. Programmes of health promotion therefore focus on influencing the health choices of individuals (singly or in small groups) and on the individual's environment (Tones, 1986:6). Through health promotion, a change is sought in individual behaviour that would promote health and well-being.

It is obvious that a variety of people are involved in health promotion, for example, town planners, politicians, legislators, health workers, administrators, communication specialists, journalists, health educators, and medical and health care professionals. Nevertheless, the task of health promotion has more often been left to public health agencies, government departments of health and welfare and governmental health care programmes. In recent times, other health organisations such as managed health care companies have entered the field of health promotion to further their own cause.

3.2 Developments in health promotion

In the beginning of this century, the focus in health promotion was on 'disease as a culturally defined anomalous or deviant condition that had behavioral ramifications for both patient and health-care provider' (Finnegan & Viswanath, 1990:17). The doctor was expected to reduce the symptoms through his/her diagnosis and treatment of the patient who would then perceive him-/herself as recovering. However, after World War II the focus shifted to the behavioural aspects of health because research indicated that many adult chronic diseases could be attributed to lifestyles. Therefore, an objective of health promotion is to persuade the individual to adopt a particular lifestyle that would prevent disease (and thus reduce mortality and illness in the

population as a whole) and ensure compliance with medical advice and treatment, thus making possible the management of diseases. This objective has the additional advantage of financial savings and a potential of reducing the demand on health services (Tones, 1986:7). This first approach seeks to encourage only healthy, disease-reducing decisions, sometimes with hard-sell techniques, within a participative model of health education, promotion and delivery, as was adopted by the World Health Organization in 1983 (Brown & Einsiedel, 1990:166). However, the task is 'not only one of influencing individuals to change their personal risky habits, but of influencing change in the larger social and cultural environment that formed risky behaviors in the first place'. In other words, the idea is to change the health of communities through the influence exerted by individuals. On the other hand, social and cultural influences are considered crucial in learning and adopting new behaviour patterns (Finnegan & Viswanath, 1990:17, 20).

In the second approach to health promotion, the emphasis is on freedom of choice and the provision of information to facilitate informed health decision making (Tones, 1986:8). This approach developed concomitantly with the personal freedom movements of the sixties. Unfortunately the ideals of this approach are often hampered by environmental factors such as poverty, limited resources and knowledge or insufficient life skills. Supplying the necessary information is normally the task of the health communication manager/specialist.

Information theory offers a particular definition of information that is applicable to health decision-making: 'Information is a measure of uncertainty, or entropy, in a situation' (Littlejohn, 1992:50). This means that the greater the uncertainty in a given situation, the more information is needed and, conversely, when a situation is completely predictable no information is needed. In this sense, the information consists of the number of messages needed to completely erase the uncertainty in a particular situation. However, the more information available, the greater the number of choices possible within a given situation. For informed decision making, the right amount of information, at the right time, is necessary.

The third and most recent approach addresses the 'fundamental social issues underlying disadvantage and ill health ... so that people in communities become aware of the ways in which their health is damaged by adverse social circumstances and come to realise how their potential remains unfilled through inadequate services and life opportunities' (Tones, 1986:8). If a community could be mobilised to act as a change agent, positive social and behavioural outcomes in health may be achieved. In health promotion, the networks of private and public organisations

and special interest groups that control the resources of the community are harnessed and coordinated to activate interpersonal, group and mass communication dynamics, thereby influencing the rest of the community to adopt the desired changes (Finnegan & Viswanath, 1990:20).

In combination, the three approaches result in an integrated community-centred approach to health promotion. The scope is broad; it surpasses the traditional privatised relationship between the service provider and client. Health no longer is merely the presence or absence of disease, but 'well-being', 'quality of life' and a 'community resource' (Finnegan & Viswanath 1990:20, 21). Through health promotion 'relevant health information is disseminated to those individuals who can best utilize such data to reduce risks and to increase the effectiveness of health care' (Kreps, 1990:187). These individuals are empowered to exert greater control over their own health, making personal choices within an environment that influences the decisions (Thornton & Kreps, 1993a:205). In health promotion, it is also true that the personal health choices of individuals influence the community, which in turn influences the environment.

It is clear that health is a 'set of collective behaviors that are formed and influenced through communication processes in the context of aggregate social relationships and contacts' (Finnegan & Viswanath, 1990:22). Social relationships are formed through communication. This emphasises the need for varied communication processes, indicating the inevitable link between health and communication. 'Communication is central to the entire enterprise, whether it be in affecting individuals' decisions or in affecting antecedent social and cultural conditions or public policy to make community environments supportive of healthier behaviors' (Finnegan & Viswanath, 1990:21).

For health promotion to take place, the public must have sufficient health information and the necessary attitudes and skills to use this information effectively in the management of its own health. From a system point of view, health information is the system input and health education is the system process to facilitate the desired system output, namely health promotion (Kreps, 1990:193–194).

Although the ultimate aim of health promotion is the health of a whole population, all health interventions and encounters, between individuals, between individuals and groups, between groups and other groups, etc. constitute health promotion (see 3.1). Health promotion campaigns

target whole populations but the health communication that takes place between, for example, a doctor and a client is also considered health promotion.

3.3 Managed health care

3.3.1 Short historical overview

Managed health care came to the fore in the late eighties–early nineties as a method of containing costs and ensuring quality of health care. Its development flowed logically from developments in the medical fund industry.

In the 19th century, health care was considered a luxury, mainly because doctors were few and far between. Gradually they became more accessible, the science of medicine itself improved, transport improved and many people moved to towns and cities. Before long, many people came to believe that medicine or an operation could cure their every health problem.

Unfortunately this ready access to health care was considerably more expensive than the traditional home care. Soon it was impossible for most people to afford this type of health care and employers then started to offer medical aid as a fringe benefit to their employees.

A medical fund can be described as a health insurance system to which a group of people (and usually their employers) contribute a premium per month. In the past all contributions were paid into a single fund from which money was made available for the health care expenses of members of the group when needed. In other words, the principle of cross-subsidisation was applied. As contribution rates kept rising owing to medical inflation and over-utilisation by some members, healthy and young members became increasingly dissatisfied at this principle and started to threaten resignation from the fund. This would leave the fund with only high-risk, high-claiming members, a situation that would lead to further increases in contribution rates.

A solution was sought by limiting some services and products. Typical examples are that a fund would limit each member and each of his/her dependants to one pair of spectacles per fund year, or it would limit a family to medicines of R3000 per fund year. To some extent this ruling curbed the extravagant spending of members but unfortunately it was prejudiced against the really ill person, for example, someone suffering from a chronic disease such as diabetes. Medical funds therefore decided to split the members' contributions into two parts. One of these was paid into a

medical savings account for the exclusive use of the member and his/her dependants (*Finansies en tegniek*, 15 August 1997b:41); no cross-subsidisation took place. The money in this fund had to be used for those expenses that a member had at least some control over, such as visits to a general practitioner, normal dental services and medicines for short-term illnesses such as eye infections, colds and flu. The rest of the member's contribution went into a risk pool from which hospitalisation expenses and expenses for serious illnesses were paid. Usually a member had no or little control over the expenses for this type of service.

At first this system seemed like the perfect solution, but many members did not understand the fairly complicated new-generation system and ran out of money in their savings accounts by the middle of the fund year. The dearth of reliable, easy-access information to help members stay healthy and save on their day-to-day health care costs became apparent. Costs to be paid from the risk pool also kept rising. It became evident that with the over-servicing of patients some treatments were duplicated, were detrimental to the well-being of patients and neglected a holistic approach to health. The only solution left was to strictly manage health care — resulting in managed health care. Managed health care is the application of management principles to the provision of health care services in order to manage the quality, cost and accessibility of health care. It is a mechanism to ensure the continued existence of good quality health care at an affordable price.

The following areas of health care can be managed: Diseases, priority groups, medicine, hospitalisation and providers/practices. Some medical funds developed their own managed health care services but independent companies specialising in managed health care were also formed.

3.3.2 Managed health care companies and health promotion

Managed health care companies (whether as an in-house ability or independently) have a vested interest in health promotion. The reason can be found in their objectives:
1. To help the individual to remain as healthy as possible, get healthy as quickly as possible after an illness, obtain high quality, appropriate health care, and keep health care affordable;
2. to help the medical fund or administrator of a medical fund to remain competitive in the market, ensure satisfied membership, control costs, and improve the quality of health care; and
3. to help the funders of medical aid (usually employers) to get their money's worth, ensure a satisfied work force, and control absenteeism.

Apart from the above interdependent roleplayers, another important player is the service provider (e.g. doctor, dentist, specialist, physiotherapist, hospital, clinic, homeopath, blood transfusion organisation, emergency room, ambulance, etc.). Traditionally, the doctor played the most important part in health promotion but, owing to the developments in health promotion (see 3.2), the increased importance of health promotion for the management of health care (see 3.3.1), and the barriers (noise) experienced in the communication between patient and service provider (see 5.8), managed health care companies identified the need to enter the arena of health promotion.

Their health promotion efforts usually focus on
- the system of health care, that is how it works;
- consumerism matters, for example savings, benefits, doctor–patient relations; and
- health matters, for example self-care, prevention, disease management, treatment compliance and rehabilitation.

3.3.3 South African managed health care and health promotion

> 'Less care is not necessarily better care, often more care can be worse care.
> I believe we need the managed care tools in South Africa'
> Tuft (*Managed care review*, n.d.).

Since South Africa's emergence from world isolation, international trends in managed health care have begun to have an increasing impact on the local industry (Brennan, 1997:3). According to Tuft (*Managed care review*, n.d.), Chairman of the Private Practice Committee of the Medical Association of South Africa (MASA), 'the market forces driving managed care are irresistible and it is in the [medical] profession's interest to introduce the system in co-operation and not to oppose it'. Indeed, managed health care is a fact of life in South Africa today.

Throughout the world, some or other form of health insurance is becoming a determinant of access to care (*Managed care review*, n.d.). With the standards of government-provided health care deteriorating at an alarming rate (*Rapport*, 12 July 1998:10), the onus is on the individual to provide in his/her own health care needs. In South Africa only 20% (7 million) of the population belong to medical funds (*Finansies en tegniek*, 28 March 1997:25; 2 May 1997:38), but it is once again becoming increasingly impossible for the man in the street to afford contributions to a medical fund. In 1982 a member's contribution to a medical fund constituted approximately 7.1% of his/her salary; in 1996 this percentage rose to 17.3% (*Finansies en tegniek*, 11 July 1997:10).

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Over the past two decades, contributions have increased by more than 22% per year (*Finansies en tegniek*, 15 August 1997a:44). It has become critical to keep high quality health care affordable within the private health care environment.

Runaway medical inflation is a major contributing factor to the South African dilemma of rising health care costs. Medical inflation stood at about 30% in 1997 despite the fact that the total inflation rate for South Africa was less than 10%. The technological environment has a major influence on the cost of health care in South Africa. The quality of modern health care relies to a great extent on expensive technology that may range from emergency call mechanisms, to payment systems, expensive surgical apparatus and telemedicine. The traditional fee-for-service system of health care has contributed to the cost increases because health professionals were paid regardless of the outcome of their treatment. Although a capitation or a managed fee-for-service system is preferable, as opposed to the traditional fee-for-service system, the necessary co-operation and networks are only now becoming a fact.

Over years of fee-for-service payments, a culture of over-utilisation has developed on the part of medical fund members. This may have stemmed from the complete trust being placed in the medical profession and members' unwillingness or impotence to take control of their own health. The attitude of medical fund members will have to be changed before this trend will stop. Over-servicing by doctors, dentist, specialists and other health professionals is also prevalent (*Finansies en tegniek*, 11 July 1997:10). So-called 'doctor-hopping' and overlapping of services and medications compound the problem.

The ratio of doctors to population in South Africa is low. Therefore the supply and demand principle becomes a contributing factor in the cost structure.

The demographic distribution of medical fund members in South Africa influences utilisation patterns. For example, specialists, who practise mostly in urban areas, are more readily consulted by members residing in the same city or town than by members from rural areas, leading to the conclusion that the proximity of or easy access to service providers may increase utilisation.

The diverse nature of the South African population is a major problem in the delivery of health care information. The South African health care consumer comes from all walks of life and the new

socio-political dispensation has brought many formerly excluded members into the medical fund fold. The literacy levels of the South African population are as diverse as their languages.

Although the previous socio-political dispensation is often blamed for all the woes of health care in South Africa, world trends have also made their influence felt. For example, as life expectancy increases in the number of people aged 65 and older and the growth in population is stemmed, health care costs can be expected to increase (*Pretoria News*, 13 January 1998:7). Already the number of elderly members (continuation members) has grown considerably in South African medical funds in relation to the active members.

The health care information needs of South Africans are vast. In South Africa as a whole, the Economist Intelligence Unit has found in the first quarter of 1997 that the health status of South Africans is the lowest of 27 countries tested. Health information campaigns on, *inter alia*, immunisation, STDs and hygiene are urgently needed (*Finansies en tegniek*, 11 July 1997:10–11). Health education efforts will have to be accelerated to improve the health status of the total population. The gaps in health care knowledge will have to be filled by the cost-effective supply of health care information. If managed health care expects the member to consult the service provider less often, it has to provide an alternative that not only gives the member information and education, but also peace of mind (*Finansies en tegniek*, 15 August 1997c:43). Taking the diversity of the South African member population into account, such information should be user-friendly, in layman's terms, preferably orally provided, widely distributed and available at various literacy and educational levels. At present, most managed health care companies in South Africa make use of a 24 hour telephone line to render this type of service.

3.3.4 Managed health care and information technology

Although telephone access to health care may be one of the delivery mechanisms, it is by no means the only possibility. In a television interview on SABC3, Dr Nkosasana Zuma, then Minister of Health said that South Africans must not think that new technology should not be applied in developing countries. Rather the opposite is true – we should utilise technology to supplement scarce resources. The Minister of Communications, Ivy Matsepe-Casaburri, urges South Africans to embrace the Internet with these words: 'We must be "dotcom" ... or else we are likely to be "dot-dead"' (*Time*, 22 May 2000:11).

According to Raghupathi (1997:81–82), a 'revolution is taking place in the health care field with information technology playing an increasingly important role in its delivery.' In 1996, the health care industry spent between $12 billion and $16 billion on information technology.

One of the applications is a 'universal electronic patient record', containing all a person's health information and which is accessible through a smart card. 'Moreover, by including patients and allowing them not only to access their data, but also to post reports and queries, patients can become better educated and more empowered to manage their own health' (Kilman & Forslund, 1997:112).

Apart from the demands of health care providers and funders, Raghupathi (1997:81–82) acknowledges the fact that, 'in today's information intensive society, consumers of health care want to be better informed of their health options and are, therefore, demanding easy access to relevant health information'. He continues: 'The challenge lies in using various forms of IT to organise, store and present health information in a timely and efficient manner for effective health related decision-making.'

3.4 Evaluation

Although managed health care companies usually are committed to health education and the provision of health information, developing, storage and distribution costs often hamper health promotion. The funds available should be optimally utilised to reach the objectives of managed health care and health promotion. From various sectors, South Africans are urged to take up the challenges offered by digital media in order to supplement scarce resources.

From the discussion above, the following factors are identified that may influence the design, impact, reach and exposure of communication intended for health promotion:
1. Health promotion should encompass individuals, groups and communities;
2. health promotion should focus on all issues regarding health, disease and treatment, facilitate decision-making, elicit the participation of individuals, groups and communities;
3. health promotion should empower health care consumers to make the right decisions regarding their own health;
4. health promotion should aim at behavioural and attitudinal changes regarding health and the utilisation of health services and medical fund benefits;

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5. health promotion could target specific opinion leaders in communities to function as change agents;

6. health promotion should be available in various languages and levels of literacy and information literacy; and

7. user-friendly and cost-effective information is urgently needed.

It is evident that health promotion is a *sine qua non* for the success of managed health care. Health promotion consists mostly of health communication. An understanding of communication can help to ensure the success of health promotion. In the following chapter, therefore, communication is the focus; first communication in general and then digital communication.

Chapter 4 Communication

4.1 Introduction

As communication is studied as an integral part of many disciplines (e.g. psychology, sociology, information science and computer science), definitions differ from discipline to discipline, depending on the particular perspective needed. Communication *per se* is not a new discipline and therefore older definitions still hold true. Fouconnier (1985:28) is of the opinion that a definition of communication will suffice if it is

- useful within a specific view, approach, etc.;
- logical and coherent;
- not contradicted by reality; and
- if it clearly distinguishes communication from other social phenomena.

In the light of the above, some of the existing definitions that refer directly or indirectly to both communication and information are the following:

> Communication is the transmission of information, ideas, emotions, skills, etc. by the use of symbols, words, pictures, figures, graphs, etc. (Steiner, in Fouconnier, 1985:29).

> Every communication act is viewed as a transmission of information, consisting of discriminative stimuli, from a source to a recipient (Newcomb, in Fouconnier, 1985:30).

> Human or social communication is a process in which a source tries to make data available to a recipient by means of a channel, signs and symbols, with the intention of letting the recipient process the data into information with a meaning intended by the source (Fouconnier, 1985:167).

For the purpose of this research, communication can be described as:

> The purposeful transmission of messages by means of symbols from a source to a recipient by means of a channel.

(An explanation of digital communication is given in 4.3.)

Communication can be explained by describing the participants or the number of participants in the process of communication, for example, intraspecific (in this case taking place between humans); intra-personal, interpersonal, group, categorical mass and mass media communication; or one-to-many, many-to-many and many-to-one communication. Communication takes place between a source and a recipient/receiver. The recipient(s) can be termed the target audience and is an important determinant of the communication process.

Other descriptions refer to the capacity of the communication channels, volume of the messages, network structure of communication (e.g. one-way, two-way, vertical, horizontal or diagonal), or the milieu in which the communication takes place (e.g. health promotion and adult education).

Health promotion takes place within the system of health care. A system is a set of objects that interrelate with one another to form a whole. It can be either closed or open. An open system interacts with its environment from which it takes and gives matter and energy. The system is affected by and affects the environment. The system is more than the sum of its parts and the parts of the whole are interdependent. When one variable in the system changes, the others are affected. Components from within or from the environment may upset the balance of a system. It is then necessary that a system change and adapt to reach its final goal (Littlejohn, 1992:40–45).

However, to stay steadfastly on the road of achievement, the system needs a method of control, or feedback. Through feedback, the system can adapt in order to reach its goals. Feedback is the knowledge gained by the source of the result of the communication process which was set into motion (Fouconnier, 1985:85). Feedback is especially important where behaviour is concerned. Some feedback may result in active behaviour (purposeful and random) and some in passive behaviour (a response to stimuli). Feedback may also be classified as positive or negative. Negative feedback indicates a deviation from the goal set for the communication. 'In a complex system, a series of feedback loops exist within and among subsystems, forming networks. At some points the feedback loops are positive, at other points negative. But always, consistent with the basic feedback principle, systems output returns as feedback input' (Littlejohn, 1992:45–49).

4.2 Effective communication

It stands to reason that not all communication is equally effective. When people attempt to change the attitudes and/or behaviours of others, communication becomes the vehicle of change (Burgoon et al., 1994:16). With such a specific objective as health promotion in mind, successful

communication would be to the advantage of both the source and recipient. To reach the objectives of health promotion within managed health care, successful communication must be ensured as far as possible.

What then constitutes successful communication? According to Fouconnier (1985:34), successful communication has taken place when the specific ideas existing in the mind of a speaker (source) have been transferred to the mind of an interpreter (recipient). However, successful communication is hampered by noise or interference that occurs in the channel, distorting the message and consequently making decoding difficult. In a broader sense, noise may range from audible noise to semantic incapabilities of the source or recipient or cultural differences between them. Burgoon *et al.* (1994:33) define noise as any additional stimuli in the channel that can disrupt the accurate reception of the message.

To compensate for noise, a signal could be intensified or repeated, using different signals to convey the same message (Fouconnier, 1985:46). Sometimes the noise or its nature and extent can only be perceived after feedback. For example, patient non-compliance to drug treatment may only be perceived when the treatment protocol's expected outcome is not achieved. Only then may it become apparent that the patient did not understand the instructions for drug taking.

The effectiveness of communication can be enhanced by using positive or negative reinforcement based on feedback. Positive reinforcement occurs when people are rewarded for making the appropriate or desired responses. In negative reinforcement, the recipient is threatened with an undesirable situation for making the wrong response. The recipient is given the opportunity to behave in the desired way. Punishment occurs only after the recipient has responded in an undesired way. Immediate response, as in a dyadic communication situation, increases the speed of learning. Specific reinforcements linked to specific desired responses are more effective than vague ones. Attitudes and behaviours are shaped by positive or negative reinforcement (Burgoon *et al.*, 1994:214).

On a personal level, five factors can be identified that contribute towards successful communication in general (Burgoon *et al.*, 1994:16, 33, 96, 119–120; Fouconnier, 1985:47):
- Communication skills (speaking, writing, listening. reading). These are essential skills in any communication situation. Listening involves hearing, comprehension and retention, but most

people have poor listening habits, owing to a lack of formal training in listening. Variables that may affect listening are the quantity and difficulty of incoming messages.

- Attitudes (towards the self, the subject, the source and the recipient). Attitudes include values, norms and beliefs. If a message to change behaviour contrasts with a strong belief, it is extremely difficult to convince the recipient to change his or her behaviour. Psychological disposition and previous experience will also affect the perceptions of those participating in the communication process. Recipients more accurately retain messages that are favourable to their self-image. Medical funds, for example usually design their communication strategies according to feedback from attitude and perception analyses conducted from time to time among their members.

- A minimum shared knowledge base. A shared code (or codes) of symbols is the very basic requirement for people to understand each other and for successful communication to take place. Symbols may consist of language, graphics, emoticons, etc. There must be a compromise of meaning among communicating people because each individual responds to the symbols of reality in unique and personal ways. Language provides those speaking the same language with a shared system of interpreting symbols, but each person invests a word with different meaning. We tend to view words as reality instead of abstract symbols of reality, a situation that may lead to misunderstanding. Specific terminology to convey a message should be known to both source and recipient. In managed health care, for example, the meaning of terms such as health, self-care, benefit, pre-authorisation, acute medicine and chronic disease must be shared among the communication participants. Perception analyses are also used to gain information on members' comprehension of terminology.

- Socio-cultural factors. These may have an influence on the ways of communicating, for example, the recipient's position within the social system may be one of opinion leader or head of a household and this may influence the success of the communication.

- Cultural environment. The culture of a community may influence the reception of communication. For example, in restrictive, prescriptive, conservative and liberal cultures the same message could be received differently.

In mediated communication, additional factors are
- access to the necessary technology; and
- proficiency in the use of the technology.

4.2.1 Participants in communication

According to Burgoon, *et al.* (1994:31–32), 'communication is a process that involves a shared code, or codes, of verbal and nonverbal symbols. The meanings of symbols are in the people who use them, not in the symbols themselves; meanings are in people'. This quotation emphasises the importance of people in the communication process. Three types of participants can be identified, namely recipient (target audience), source and gatekeeper.

For managed health care to communicate successfully, knowledge of the target audience is of paramount importance. 'Without the receiver there would be no transfer of meaning. To some extent, the receiver exerts a degree of control over the source, and both receiver and source must accommodate each other in the communication transaction' (Burgoon *et al.*, 1994:95).

Knowledge of the target audience can be gained by profiling individuals, groups of recipients or populations. From demographic information (age, sex, social background, economic background, racial, ethnic and employment factors), generalisations and predictions can be made about, for example, an audience's probable access to electronic media or an audience's attitude towards family planning. Knowledge about recipients improves predictions of audience reaction and assists in making communication more effective for specific audiences (Burgoon *et al.*, 1994:96).

In mass communication, there is often a recipient group who acts as an advocate or opinion leader for the mass population (or a community) and as such is the intermediate recipient in the communication process; this group facilitates communication through discussion with the members of the community. These opinion leaders are not officially chosen or appointed as leaders and it is therefore difficult to distinguish them from other group members. Theirs is an informal role taken in interpersonal communication. Through opinion leaders, groups become the key to mass communication influence, 'providing direction to individuals in terms of opinions, attitudes, values, and norms' (Littlejohn, 1992:351). This fact has great value for health promotion; if the leaders can be reached and convinced to change behaviour, they could further promote health in their communities – even if only by setting an example.

In distant communities in South Africa, for example, unofficial leaders have been identified by the health authorities and are now being trained and empowered as peer educators in their respective communities (Goosen & Klugman, 1996:489). The same principle is used in HIV/AIDS campaigns at the workplace, where peers are trained to become educators for the group.

In any communication, the credibility of the source, whether of the originator or the opinion leader, is an important determinant of successful communication. Recipients make judgements about sources that can have an important impact on the success of communication. 'Credibility rests upon the perception of an audience, that is, a source is only credible if receivers believe it to be so' (Burgoon *et al.*, 1994:67). Recipients make five decisions regarding the credibility of a source. These dimensions of credibility are:

- competence, that is the source's perceived knowledge of the subject;
- character, that is the apparent trustworthiness of the source;
- composure, or the extent to which the communicator tends to be in control in situations that produce stress;
- sociability, that is the degree to which the source seems likeable and friendly; and
- extroversion, that is indicating if the source has an outgoing personality (Burgoon *et al.*, 1994:67–68).

The degree of homogeneousness also plays a role in effective communication. In some instances where the objective of communication is to persuade or inform, a greater degree of dissimilarity is tolerated (Bredenkamp, 1996:9–10). In social relationships, people who are similar tend to spend more time communicating. To overcome problems associated with dissimilarity, the frequency of communication should be increased, empathy should be developed and close attention should be given to feedback (Burgoon *et al.*, 1994:68). This fact must be taken into consideration where the participants have different levels of knowledge and power, for example, in the relationship between a health care professional and a client.

Power is an important variable influencing the success of communication. A source may be perceived to have at least one of five different types of power:

- Reward power, or the ability of the source to apply positive sanctions;
- coercive power, or the ability to deliver negative sanctions;
- referent power, or the ability to appeal to a recipient's wish to please or be like the source;
- expert power, or when the recipient believes that the source has superior knowledge on a topic because of the source's reputation; or
- legitimate power, or where the internalised values of the recipient affirm the source's right to exert control over the situation (Burgoon *et al.*, 1994:68–69).

In addition to the above, a recipient's perception of a source's power will influence the outcome of communication. The recipient will decide if the source has the ability to apply sanctions (perceived power), if the source really cares whether the request/appeal is complied with or not (perceived concern) and if the source has the ability to determine if the request has been fulfilled or not (perceived scrutiny) (Burgoon *et al.*, 1994:69).

In mass communication, a third participant is often involved in communication, namely the so-called gatekeeper. The gatekeeper could be a publisher, journalist, editor, representative, etc., who receives messages from a source. The gatekeeper filters the information and then creates his or her own message, which is then transmitted to a recipient(s). Recipients do not get their information directly from a source, but rather from the gatekeeper who selects and interprets the information from many sources (Burgoon *et al.*, 1994:29; Littlejohn, 1992:350).

4.2.2 Communication objectives

Once the target audience has been selected and their salient characteristics, predispositions, perceptions, etc. identified, it is necessary to clearly identify the specific communication objectives.

The functions of communication are broadly described as surveillance (news or knowing what is going on), correlation (having options or solutions for dealing with societal problems), cultural transmission (socialisation and education) and entertainment (Littlejohn, 1992:353).

Within these broad categories, communication might want to elicit cognitive, affective or behavioural changes from the recipient(s) (Kotler, 1991:573). For example, through communication a managed health care organisation might want to create awareness of the health risks involved in promiscuous sexual practices – a cognitive response. A community might be enlightened about their rights as health consumers, which could lead to feelings of power – an affective response. By communicating the influence of high salt intake on hypertension, a community might be persuaded to decrease the quantity of salt in their diet – a behavioural response.

Whereas any of the above changes can be objectives in themselves, recipients usually have to pass through the first stage before the second, and only then the third can be reached. In other words, a recipient will receive information to make him or her aware of a problem or situation, a

feeling towards the problem will have to be evoked and only then will a change in behaviour be possible. In health promotion, behavioural change is sought to improve health and well-being.

For communication to be labelled successful, it has to reach its objective. Therefore, the objective will be the departing point in determining the design of the message.

4.2.3 Designing the message

Messages are generated and constructed to accomplish the various goals and intentions of communication. Designing includes speaking and writing, nonverbal coding and language, and the mental processes used to translate ideas into concrete form. Message production is the result of a planned process of stepwise dissemination of information or an endeavour based on the source's assessment of a situation and the needs of the target audience. The development of a message takes place within a particular social milieu (Littlejohn, 1992:379–380).

Message design can be divided into message content (what is said), message structure (composition and organisation) and message format (the symbols used to convey the message).

Message content (that is the information contained in the message) could make an appeal to an audience's reason (logical argument), emotions (emotional argument) and/or morals (credibility). The first two can be combined in any given message. They can also be conceived differently by the recipient than was intended by the source. Various theories exist to explain how communication can effect response. Where behavioural change is sought, most theories explain that the closer the message is to an existing attitude, the more readily the new attitude will be accepted, with changed behaviour as the result (Burgoon *et al.*, 1994:215–216, 226).

Persuasive communication is the method most used for affecting behavioural changes to reach the ideals of health promotion. 'A persuasive message may lead to changes in a person's attitude (beliefs, opinions, and values), which, in turn, may lead to changes in a person's perceptions, emotions, cognition, or overt action' (Burgoon *et al.*, 1994:214). Opinions are favourable, unfavourable, or neutral evaluations of a person, thing, or idea; beliefs are non-evaluative convictions about the truth or falsity of something; and values are deeply held opinions that influence a person's thinking or behaviour.

In a persuasive message, the source states an idea or course of action and suggests reasons why recipients should agree with it. According to the Toulmin model (Burgoon *et al.*, 1994:221), the most persuasive messages are made up of a claim, warrant and data, where the claim is any statement (implied or explicit) that a communicator wants his or her audience to accept or agree to, the warrant is a bridging statement or general belief or attitude stated in support of a claim that allows the data to be linked to the claim, and data are information in the form of specific beliefs stated in support of a claim (evidence). To persuade, the communicator must support each claim with a warrant and data.

Example:

Claim:	All cigarette advertising should be banned.
Warrant:	Cigarette smoking causes cancer.
Data:	Cigarette advertising encourages smoking.

In structuring a message, attention is given to the organisation of the elements of a message in its linguistic sense, that is, sounds, letters or other symbols building into phrases, then sentences, discourse, etc., and its semantic sense to facilitate meaningful communication. However, structuring a message involves more: it is the building of a logical, coherent and persuasive argument, discourse or series of meanings that would elicit the desired response. The source or gatekeeper will have to decide, for example, how much explanation will be needed (given a particular target audience), whether two-sided arguments are needed, what the order of presentation should be (e.g. strongest arguments first or last), how much information can and should be supplied, and if an inductive or deductive approach should be followed. The structure may affect comprehension, attitude and behaviour, and it may persuade. The implication of message structure on human relations and actions and its impact on individuals are relevant considerations because they may differ from person to person (Kotler, 1991:577–578; Littlejohn, 1992:381).

Message format plays an important role, especially in modern communication media. Sound (rhythm, pitch, articulation and speech rate), video and animation (clarity and sound quality), visual communication elements (colour, letter size, page size and layout) and body language in personal communication, and the appropriateness of all of these for a particular audience, may influence the success of communication.

Verbal and non-verbal communications complement one another. 'Nonverbal messages always surround and influence the verbal messages people send, because the medium used for sending verbal messages is always nonverbal (as in vocal or visual cues)' (Rensburg, 1996:218). In verbal communication, an arbitrary symbol system is used to name phenomena (symbolic form of communication). Symbolic communication is mainly used for communicating data-oriented, technical messages.

Verbal communication consists of spoken and written messages. Spoken communication is personal and dynamic, but also transitory and open to misinterpretation and negligence. Feedback becomes an important component of this type of communication. Written communication, in contrast, conveys messages of permanence, stability and formality. The recipient can determine the pace of decoding. Difficult sections can be reviewed and contemplated at ease (Rensburg, 1996:219).

In non-verbal communication, a message describes the actual phenomenon it is communicating (representational form of communication), for example, facial expression of feelings and emotions, posture, gesture, or vocal cue. Representational communication is used to communicate emotionally oriented messages (Kreps & Thornton, 1992:27; Rensburg, 1996:218).

Even though the source may take every precaution in designing and encoding a message that accurately and clearly reflects the intended meaning, the success of the communication and the learning of new behaviour is not guaranteed because learning occurs through a social process of enquiry (exploration) that includes the creation, negotiation and trying out of the meaning of the message. Various viewpoints (e.g. structuralist, interactionist and cognitive) exist regarding the decoding of a message to extract the meaning, but it is generally agreed that the recipient awards meaning within his or her social, psychological and intellectual background, denoting meaning to words of shared knowledge and ascribing personal meaning to others (connotation). Littlejohn's (1992:381) opinion is that meaning is an outcome of the 'interplay between the structure of the message, the use of the message in actual situated interaction, and the mental process necessary to manage information and make interpretation'. People select and prioritise, and therefore give meaning to messages on the grounds of past experiences and predispositions (Kreps & Thornton, 1992:22–23).

The messages people send not only have content, they also define relationships. With each message the source and recipient establish a certain relationship with one another through the feelings that are expressed in the communication. Respect or disrespect, like or dislike, powerfulness or powerlessness, love or hate, comfort or discomfort are examples of the relationship elements conveyed by messages. Personal communication contains the most relational messages (Kreps & Thornton, 1992:23–25).

According to Fuller (1996:12), the design should therefore provide 'a medium that supports communicative practices which enable meanings to be shared'.

4.2.4 Selecting the appropriate communication medium

Human-to-human communication is fraught with problems and any appropriate method or medium that could advance communication should be utilised. But, audiences are selective in the media and information they choose to use. Audiences choose media, and their content, on the grounds of their own particular needs and goals. Furthermore, audiences, especially mass audiences, are not easily persuaded by media alone (Littlejohn, 1992:352, 363).

Two broadly defined channels of communication are available: personal and non-personal. In personal communication, two or more persons are involved who communicate directly to one another. Their encounter may be face-to-face, person to audience, over the telephone and, during the past decade, also via e-mail. The greatest advantage of personal communication is that messages can be individualised and feedback can be immediate. Until about the 1940s, this was the channel employed to communicate health matters.

Non-personal communication takes place without personal contact or interaction. Examples are media (e.g. newspapers, magazines, television and websites), events (e.g. exhibitions and conferences) and atmospheres (e.g. that of a hospital foyer, a concert hall or a museum) (Kotler, 1991:579–580). The communicator should choose the most appropriate channel to reach the objective of the communication.

According to Perse and Courtright (1993:485–487), audiences select the mass or interpersonal channels that they believe will provide the gratifications they seek. Communication channels differ regarding their characteristic content, modes of transmission, modes of reception, ease of use and patterns of use, as well as the needs that they are typically perceived to meet, for example,

personal needs or information needs. In their study, Perse and Courtright (1993) found that individuals choose media idiosyncratically and according to specific needs in specific contexts. However, they also found that the various communication channels possess 'normative images', that is, widely shared perceptions about a medium's typical usage, which are based on the functions that they serve. These perceptions may differ from one community to another and may be influenced by a particular societal structure and media system. Unfortunately, the study was conducted before digital media became widely accepted as communication tools.

4.2.5 Measuring the results

If successful communication is the transfer of specific ideas existing in the mind of a speaker (source) to the mind of an interpreter (recipient) (see 4.2), then ideally a mechanism to measure this transfer should be in place. Such a mechanism can be found in feedback. Feedback is the response of the recipient to the communication message of the source. On the one hand, feedback may indicate that the objective of the communication has been reached, which would conclude the specific communication effort, except for future reinforcement. On the other hand, feedback may indicate that an adjustment of the message or the channel is needed to reach the objective, or even that a re-thinking of the objective is required to align with the needs of the target audience.

Feedback may consist of body language, spoken and/or written language and symbols, and behaviour (whether positive, negative or neutral). 'It serves as the link between the interactants, giving communication a spontaneous and transactional nature. Feedback enables the source to judge the impact of a message and to adjust the message to meet the needs of the receiver or audience' (Burgoon *et al.*, 1994:96–97).

The effectiveness of communication usually increases as the quantity of feedback increases. Face-to-face and small-group situations readily lend themselves to feedback, while feedback is usually minimal or delayed in public or mass communication settings, such as newspaper reports and television appearances. 'In mass communication, feedback may flow in three directions: from the receiver to the gatekeeper, from the receiver to the mass media source, and from the opinion leader to the mass media source' (Burgoon, *et al.*, 1994:30). Digital channels, however, make ample provision for feedback (see 4.3).

4.3 Digital communication

The new communication media are characterised by increased user control, more specialised content, speed of transmission, and non-linear access. Although research on these media (as the media themselves) is still in its infancy, an increasing number of studies focus on the unique attributes of digital media that may add value to the communication process.

The linear communication model of Shannon and Weaver, first published in 1949, is singularly applicable to the digital communication process. According to this model, the source is responsible for formulating or selecting a message. The sender is the instrument or transmitter (in modern terms, the computer) that converts or encodes the message into a set of transportable (digital) signals that are sent over a channel to a recipient. The channel is the link between the source and the recipient or the means by which signs and signals are transmitted. The channel can be cyberspace, satellites, cables, tubes and water. The signs carry or transport the message, while the signals consist of the converted or encoded message. The recipient converts (decodes) the signals back into a message (Fouconnier, 1985:42–51; Littlejohn, 1992:52). For example, in a health care environment utilising digital media, the health management organisation is the source of the message. The message is converted to digital data, that is a computer file, that are transmitted via cyberspace to the member, patient or other end-user by means of a computer. The user's computer converts the digital sign back into a visual and/or audible file. December (1997:1) gives the following definition of communication with a computer: 'Computer-mediated communication is a process of human communication via computer, involving people, situated in particular contexts, engaging in processes to shape media for a variety of purposes.'

Digital communication can be seen as a process taking place when a human interacts with a computer (the human computer conversation paradigm) or when the user interacts directly with the environment by using the computer as a tool (the direct manipulation paradigm). However, the computer can also be viewed 'as a medium for conversation between users, rather than as a dialogue partner with the user' – a shift 'from object of action to medium for communicating action and intent' (Fuller, 1996:11). Balint (1996:29) sees the computer as an 'intermediary' between human and human. The intermediary adds value to the exchange of information if it does 'not only transmit the formulated messages, but also the mental models of individuals [useful for decoding/encoding of messages] involved in the human-to-human communication' (Balint, 1996:32). This new relationship increases reliability, formal correctness and exactness because computer processing can filter, adjust and correct messages and store facts deduced from the

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messages. It increases convenience and efficiency of cooperation between all the parties involved.

Apart from the role of the computer as a tool for enhancing processes already taking place, such as performing calculations, processing data and manipulating symbols, it is also an information technology and a medium of human communication. The information technologies have led to a completely new communication environment in which any form of human-computer-human interaction can be seen as a form of communication. Almost every sector of human activity, including communication, has been revolutionised by the convergence of the computer with the telephone (voice) and television (video). The expectation is that one day sources and recipients will be able to send text, voice, images, gestures, facial expressions, virtual objects and cybernetic architectures effortlessly via digital media such as CD-ROMs, the Internet and DVD (Strate, Jacobson & Gibson, 1996:5–8).

The new communication environment (cyber space) is already evolving into a unique culture associated with computer-mediated communication – a culture with its own forms of language and symbols, vocabulary, rituals, conventions, norms, rules of conduct and phenomena, including flaming (hostile communication), spamming (too long or verbose messages) and less offensive forms of ranting. Indications are that our present society is fast moving in the direction of a global electronic village or society (Strate *et al.*, 1996:12).

However, the current extent and nature of digital media's influence on successful communication are still unknown, mainly because of insufficient research to date.

4.3.1 Participants in digital communication

As stated above (see 4.1), communication can be characterised by describing the participants or the number of participants in the process of communication. Many researchers, including Strate *et al.* (1996) and Gumpert and Drucker (1996), see the electronic environment as a society in which social ties and relationships are formed and social interaction of both a private and a public nature takes place. As in physical society, intra-personal, interpersonal (e.g. e-mail), group (e.g. newsgroups and teleconferencing) and mass media (e.g. Website) communication takes place.

Digital media have for many people supplanted the traditional distance interpersonal communication of the postal service, telephones and fax machines with almost instantaneous

communication (Jones, 1995:1). According to Jones (1995:4), e-mail is the most utilised feature of the Internet.

Through the use of computing for communication, a 'personal cyberspace' is generated in which intrapersonal communication can take place. Owing to the anonymity of many cyberspace communications, participants are able to create many 'selves' if they wish. According to Strate and Jacobson (1996:13), 'through this extension of our nervous systems we become members of a global village, [in which] we replace individual identity with role playing, and [where] our forms of perception and our sense of our own bodies are altered'. On the one hand, therefore, individuality may be lost in digital communication but on the other hand individuality may be expanded. Although such behaviour could be to the detriment of reliable information transfer, it nevertheless can create a safe environment and loss of self-consciousness for end-users (Hoffman & Novak, 1996:57), which is conducive to open-hearted, truthful communication. Cyber personality could influence both intrapersonal and interpersonal communication. 'Those who might be more inhibited in direct daily intercourse readily speak out on-line', Aycock (1995:187) found. This is confirmed by Reid (1995:173), who found that 'people in computer-mediated groups were more uninhibited than they were in face-to-face groups'. Gumpert and Drucker (1996:30) are also of the opinion that 'safety seems to be the primary defining criterion by which individuals choose the spaces in which they work, play, live and interact'. They compare the 'hostile world of the street' with the 'more secure, non-threatening, electronic Internet highway of cyberspace'.

An interesting aspect regarding users' experience of electronic communication has been observed by researchers such as Gumpert and Drucker (1996) and Beniger (1996), namely that although electronic communication is in essence mass communication, the end user mainly experiences the communication as personal, indicating that the sharp division between people's public and private places is fading.

The following excerpts from a recent article, 'Duped on the Internet', give insight into the personal nature of electronic communication (Sorour-Morris, 1998: 68–73):
'It gives me a chance ... to share the load.'
'I feel close to them, and I'm interested in what's going on in their lives.'
'They rallied round, giving advice and support.'
'Erin bonded strongly with other mothers who'd given birth at the same time.'

'They offered to lend her their wedding dresses so that she could marry him in style, they offered her money.'

'One night ... Erin dropped her bombshell. Tay was in hospital, diagnosed with cystic fibrosis. ... The news was grim. [I] froze, horrified. ... I offered her my support and a cyber-hug.'

'I got the chills... I suddenly knew that Tay was going to die. I was devastated.'

'Tears streamed down my face as I logged into one of the chat rooms to talk to other people who knew Erin'.

McLaughlin, Osborne and Smith (1995:91) describe this type of communication as representing 'a significant departure from communications media as traditionally understood, combining as they do aspects of both mass and interpersonal communication'. It provides new opportunities for forming relationships, leading to the creation of a cyber community. This sense of community is enhanced by personalised mass communication made possible by technology. For example, once a user has registered on a site like amazon.com, the user will be greeted by name every time he/she logs onto that site.

Research on newer technologies has emphasised another attribute of communication channels, namely social presence, or perceived personalness, which may contribute to successful communication. Social presence is the feeling perceived by the recipient that the communication exchanges are sociable, warm, personal, sensitive and active. Social presence is, however, linked to channel attributes. Until recently, communication channels that did not convey nonverbal information, such as facial expression, gaze, and posture have been considered as lacking in social presence. However, social presence can be influenced by communication goals. Some communication goals, such as overcoming loneliness or dealing with disease and disability, require higher social presence than, for instance gaining information (Perse & Courtright, 1993:488–490). From the above excerpts it seems that the newer media, especially newsgroups, have overcome this drawback.

Digital group communication originated from the early Arpanet days when information needed to be shared among a number of users, thus leading to the creation of mailing lists and later bulletin boards and newsgroups (e.g. Usenet) (Jones, 1995:4). Groups participating in cyber communication may be either all simultaneously on-line (synchronistic communication) and respond to one another immediately, or not (asynchronistic communication) (Baym, 1995:143).

The success of group communication is influenced by external contexts (e.g. the language and culture of participants), the temporal structure (synchronistic or asynchronistic), system infrastructure (e.g. physical configuration, system adaptability and level of friendliness), the group purpose (e.g. support for disease sufferers) and participant characteristics (e.g. group size, composition and individual degrees of training and skill in using the medium) (Baym, 1995:141–149).

Digital communication is, however, essentially mass communication. 'Mass communication involves the dissemination of information and influence in society through media and interpersonal channels. It is an integral part of culture and is inseparable from other large-scale social institutions. Media forms... – as well as media content – affect our ways of thinking and seeing the world' (Littlejohn, 1992:369). Mass communication by electronic media consists of one-to-many or many-to-many communication. As in traditional mass media, interpersonal and group communication also plays a role in the mass communication process (Littlejohn, 1992:372).

Beniger (1996:53) believes that the influencing and control of large populations (masses) are dependent on a large databank of prior knowledge, the capability to compare current behaviour to the desired one and to respond accordingly through many iterations. This is facilitated by mass communication through digital media.

4.3.2 Cyber community

In digital communication, participants firstly interact with other people and secondly with the medium. As seen above, intimate relationships can be formed that belie the supposed impersonal nature of digital media.

In Wilkins's study (Wilkins, 1991:71) it was found that it took only three months for the participants in digital communication to come to regard themselves as a community and to regard one another as friends, although very little personal information had been made known by the participants. 'Because discourse features of the computer conference were features associated with oral conversation, participants may have experienced the exchanges in the same way they experience face-to-face exchanges – as exchanges within interpersonal relationships. ... Emotionally, the participants may have responded to the dyadic nature of the conversation that resulted as a focus on interpersonal relationships among the participants and as a sign of personal intimacy' (Wilkins, 1991:72). It is important to note that the participants in this study did not engage in the

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conversation with the explicit or primary purpose of establishing and maintaining personal relationships (Wilkins, 1991:74).

The social nature of cyber communication and cyber community developed gradually, although 'the notion of community has been at the heart of the Internet since its inception. ... In essence, scientists formed interactive research communities that existed not on a physical campus but on the Internet' (Armstrong & Hagel, 1996:134). In the course of time, more communities sprung up to serve consumer needs for communication, information and entertainment, with commercial enterprises only now coming to understand and utilise the unique community-building capabilities of digital media (Armstrong & Hagel, 1996:134–135). By providing consumers (recipients) with the ability to interact with one another and with the service provider (source), organisations can build new and deeper relationships with their customers. Armstrong and Hagel (1996:134–135) believe that success in on-line ventures will belong to those organisations that manage to organise electronic communities through which multiple social and commercial needs are met. This reminds of Perse and Courtright's 'gratifications' sought by audiences (see 4.2.4).

A community formed in cyber space should ideally fill four different user needs, namely transaction, interest, fantasy and relationship in order to develop new and strong relationships (Armstrong & Hagel, 1996:136). A visitor to a cyber community of transaction may want to buy, for example, a humidifier but want to consult other community members first. Communities of interest are formed when users interact extensively with one another on specific topics, such as child care. (The level of personal involvement in these communities is higher than in a community of transaction.) In communities of fantasy, users exercise their imagination and may participate in the creation of a fantasy world, for example, SimHealth, a computer game in which participants make health care decisions. Where competition with others is incorporated in these communities, the interaction becomes a main attraction.

Some groups of people may feel a need to come together in communities of relationship. These communities usually focus on certain intense life experiences. Their interaction can lead to the formation of deep personal connections. The Cancer Forum on CompuServe, which provides support for cancer patients and their families, is a prime example. Participants communicate about how they deal with the disease and exchange information on medical research, pain medication, test results, and protocols. Participants may download literature on cancer from the Forum's on-

line library. The primary value of this type of community is that it gives people the opportunity to come together and share personal experiences, similar to the interaction in a physical community.

4.3.3 Literacy and orality in digital communication

In traditionally oral cultures, the dominant forms of expressions are often concrete, image-evoking narrative. 'Although abstract meanings are implicit..., they are not directly expressed in words. Instead they are symbolized by images called to mind by verbal description' (Lippert, 1996:264). In addition, widely accepted terminology may not be translatable into indigenous languages. For example, there is no equivalent for 'immune system' in the indigenous languages of South Africa. In South African HIV/AIDS health education programmes, trainees are taught that the immune system is the body's 'soldiers'

What we have in the world today is a co-existence of the written word alongside orality. The printed word and literacy increasingly have become the domain of an elite, whereas speech and imagery ('secondary orality') is the dominant media of the masses. This is evidenced by the popularity of television, video and film in which images are not symbolised but presented directly. Lippert (1996:264) postulates that the mind has its visualisation done for it by these media but, once the mind has taken possession of an image, that the act of using it to represent the abstract is the same with both speech and film media. It should be remembered, however, that both language and the alphabet are digital symbol systems in which the form of the signifier is purely arbitrary. Whichever symbol is used, the semantic status of the signified is not affected (Lippert, 1996:262–263).

Secondary orality has strong representation in digital media. In fact, Lee (1996:279) refers to e-mail's immediacy (and democratic power) as having its nearest parallel in oral communication, even though e-mail is not an oral medium. It rather consists of mock-oral prose and a mixture of literate and oral codes, such as emoticons, that are meant to put the verbal text in context on the Internet.

In research done by Wilkins (1991:74), it was found that 'although the computer communication ... used a graphic/visual medium, the interactive nature of the exchange and the real-time constraints of writing and reading online contributed to a discourse characterized by text features of oral conversation'. Participants in digital personal communication sit at their computers to 'talk' to one another in accordance with the oral language activities between two conversationists.

Characteristics of these conversations include turn-taking (by making use of direct address); the maintenance of the topic by lexical repetition, synonyms and shared cultural knowledge; paralinguistic features (e.g. 'sigh', 'blink', 'grin'); exaggeration, exclamation, expressive vocabulary and vivid particles to indicate interest and involvement with others; and disfluencies in conversation (hesitations, false starts, afterthoughts) (Wilkins 1991:61–70). 'Thus a conversation by computer presented a traditionally oral activity — interactive discourse — now in graphic form' (Wilkins, 1991:56, 57). In computer conversations, which provide the means for a traditionally oral activity to take place in written form, a shift is seen in the boundaries between spoken and written discourse.

Apart from the oral nature of written digital conversation, the spoken word is claiming more attention than ever before. According to Friedman (1995:77), in the latest CD-ROM games, for example, the traditional on-screen text is replaced with audio dialogue. He predicts that 'the day when a computer game might look indistinguishable from a film' may not be far off.

Voice input (instead of typing messages with a keyboard) for the English language is already generally available at a reasonable price. Software quality varies at this stage, but public demand will probably lead to better products in the near future.

4.3.4 Multimedia in digital communication

As stated in 2 above, an advantage of multimedia for communication is the fact that various senses are involved in the decoding of a message. The retention of at least part of a message seems to be improved if intense sensory stimuli accompany the message (Burgoon et al., 1994:120).

The planning, design and encoding of messages should take advantage of the possibilities offered by multimedia to facilitate successful communication. Multimedia provides interactive access to both static (i.e. text, image and graphics) and dynamic (i.e. audio, video and animation) content (Hoffman & Novak, 1996:53). According to Bolter (1996:106), a typical multimedia application should rely for its rhetorical effect mainly on video and graphics, and then on sound. Words should only be used as captions for graphics or to identify buttons. Text should be used only to communicate that which cannot be pictured easily.

Multimedia has a large contribution to make towards communication in illiterate and/or semiliterate communities, albeit through an intermediary. The multimedia characteristic of digital media is in line with the new orality prevalent in the world today (see 4.3.3) and the demand for graphic presentation of information (see 4.3.5).

4.3.5 Graphic representation in digital media

Multimedia use in CD-ROMs, DVD and the Internet is proof of the integration of audiovisual, verbal and numeric forms of communication to enhance the general accessibility of information to a wide audience (Strate *et al.*, 1996:13). Bolter (1996:106) predicts that the importance of two- and three-dimensional graphics in electronic representation and communication will increase rapidly in the coming years. The digital communication environment (cyber space) is seen as a graphic space in which the role of written text is minimised; in fact, its legitimacy and necessity is being questioned. The main reason for this is that the 'growing cultural importance of graphics technology seems to be undermining the power of prose to convey and convince' (Bolter, 1996:106). The ultimate unmediated or natural communication is believed to be a virtual environment rendered in immersive, three-dimensional graphics. In such an environment, written communication will be superfluous. Already, as there is greater reliance on electronic graphic presentation, written text is being displaced to a great extent or marginalised (Bolter, 1996:106–108).

It can be said that future digital communication will rely to an increasing extent on graphic representation. In 1996 Bolter (1996:107) predicted that e-mail and newsgroups will become more and more graphic as the technology improves. Especially in the field of marketing, this is now the case. For example, companies use e-mail for branding by incorporating their logos and other recognisable brand images into their messages. E-postcards also carry graphical messages, as well as sound and written text.

4.3.6 Hypermedia in digital communication

Hypertext is the non-sequential presentation of information that allows each user the opportunity to choose and link information together along different paths. As a result the outcome of one user's interaction with the hypermedia (a combination of hypertext and multimedia) may be radically different from the next person's. Potentially, a user can freely travel a global network of information to find and access hypermedia content (machine interactivity) or to communicate with others (person interactivity) in order to fill his/her communication needs (Hoffman & Novak, 1996:53).

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This non-linear search and retrieval process provides 'essentially unlimited freedom of choice and greater control' for the user, especially if compared to the 'limited navigational options available in traditional media such as television or print' (Hoffman & Novak, 1996:53). In an educational environment, control is relocated from the teacher (or source) to the pupil (or recipient of the information); in a medical situation, control is transferred from the health professional to the client. Exploration, an effective method of learning, is applied because recipients pursue different paths. In summary it can be said that hypertext is 'dramatic, dynamic, holds attention and gives a choice' (Gibson, 1996:253).

4.3.7 Interactivity in digital communication

According to Hoffman and Novak (1996:54), a user perceives two environments when interacting in a computer environment, namely the physical environment in which he or she is present and the environment defined by the hypermedia environment. In the hypermedia environment, interactivity occurs between persons and between a user and the medium. Person-to-person interactivity takes place during teleconferencing and e-mail, and interactivity between a user and a medium when a computer game educates a recipient about, for example, the complexities of the American national health care policy (Phelan, 1996:42). In a digital disease management programme, such as ISIS (*Initiation Sanitaire Informatisee et Scenarisee*) for cardiovascular risk patients (Consoli, Ben Said, Jean, Menard, Plouin & Chatelier, 1996), interactivity between a user and a medium expands to person-to-person interactivity whenever interaction with a health care professional becomes necessary.

The interactive characteristic of electronic digital communication is unprecedented in mass communication and differentiates it from other public electronic media such as television. This unique characteristic can be utilised in the design of new products, message content, feedback and communication strategy. New technologies and conventions inherent in the possibilities of the medium itself should be exploited to the advantage of successful communication (Hoffman & Novak, 1996:65).

Because digital media make provision for interactive participation, learning is enhanced. The interactivity also presents dynamic potential for growth and development and therefore the most successful interactive interfaces are those that do not prevent the user from taking actions and fulfilling tasks personally (Hoffman & Novak, 1996:63, 66).

Through electronic information, a user may perceive him- or herself to have some form of behavioural control, thereby feeling empowered and confident to make sound decisions. Because the hypermedia computer-mediated environment (CME) is, 'first and foremost, an interactive environment, it affords the foundation for consumer control that is impossible in traditional, passive media. Control comes from both consumers' perception of their ability to adjust the CME and their perception of how the CME responds to their input, with consumer adjustment taking the form of network navigation' (Hoffman & Novak, 1996:64). With digital media, the user is an 'active participant in an interactive exercise of multiple feedback loops and highly immediate communication' (Hoffman & Novak, 1996:66). The ultimate interactivity in an electronic medium today is virtual reality (see 4.3.9).

4.3.8 Feedback in electronic communication

Without feedback, it is difficult if not impossible to determine accurately the effectiveness of communication. During a communication event, a person is responding (giving feedback) continuously. This response is mostly on an affective level because people respond with their emotions and feelings. Upon receiving the feedback, the effect of a message can be monitored and responded to in a subsequent message.

In dyadic (between two people) communication, there is immediate feedback from the recipient, but in traditional mass communication feedback is delayed and minimised because of the distance in time and space (Burgoon et al., 1994:13, 14, 29; Hoffman & Novak, 1996:52). This has supported the belief that the role of mass media to effect behavioural change is minimal although mass media may contribute towards the creation of awareness, especially if supplemented with interpersonal and community structures (Rensburg, 1996:225).

Feedback in digital communication is one of its greatest advantages. Owing to the interactive nature and immediacy of communication via electronic media, response mechanisms can be developed and customised for specific users and/or circumstances. Through proper digital feedback mechanisms, for example, uncertainty regarding the power and credibility of sources can be corrected (see 4.2.1). Honest feedback is encouraged by the unselfconscious participation that electronic communication seems to elicit (see 4.3.1). In a network structure, multiple feedback loops can cross-check and validate responses.

In digital communication, feedback is possible through e-mail, the chat rooms of websites, news groups, fill-in-forms, teleconferencing, etc. In addition to cognitive feedback, sound (voice) and video provide opportunity for affective feedback while emoticons, para-linguistic features and other oral language characteristics (see 4.3.3) contribute to affective feedback via the written word.

Evaluation of the digital medium itself is not only possible through feedback but is also critically important to the source of the communication. Feedback data on the system performance are used to guide information dissemination strategies and develop innovative delivery systems (Kreps, 1993a:151).

4.3.9 Design in digital communication

To enable successful communication, Roschelle (1996:16) suggests four design principles:
- An extended engagement with the problematic situation;
- a supportive focus and content;
- communicative action (where on-screen action and visualisations take place); and
- learning by doing, which is brought about by enquiry.

Digital media lend themselves remarkably well to these four design principles. Not only do they provide opportunities for questions and answers, give hyperlinked, multimedia information and virtual worlds in which to practise new-found knowledge, but they can also mediate communication on different levels (e.g. elementary, intermediate and advanced), in different languages and in different cultural settings. Designers of digital media should know and take into account the communication needs of the specific target audience (Wood, 1995:71, 72).

The design displayed in a digital medium contributes to the success of the communication, even though users are usually unaware of the design elements when they interact with the medium and decode the message. However, the attributes of digital media should be kept in mind when communication is designed. 'The nonsequential structure of hypertext documents, for example, requires special flexibility in design where the page is no longer the unit of presentation' (Wood, 1995:74, 75).

Design criteria for digital media that may influence the effectiveness of communication include the following (Wood, 1995:71–76):
The design should
- enliven the content of the document;

- make the information easier to find;
- contribute to the usability of the document;
- increase the readability of the text (font and size; page layout; line length) and illustrations;
- aim at simplicity and consistency in repeated elements such as navigational controls and location of titles; and
- incorporate the basic rules for interacting, for example returning to the entry point in the document, annotation and bookmarks.

To this list can be added that the design should

- contribute to the purpose of the publication; and
- keep the intended target audience in mind.

Of particular importance is the interface. Successful mediated human-to-human communication procedures require human-centred interfaces capable of dealing with human nature and behaviour. According to Balint (1996:31), human-centred interface design is the 'key to exploiting the potential of computers in making human-to-human information exchange efficient and reliable without assuming too much human familiarity with computers.'

To be truly human-centred, Balint (1996:33) recommends that the ideal interface must have

- nearly free-form command input (i.e. no menu-driven or direct manipulation operations);
- nearly free-form natural language input (e.g. no reliance on limited keywords);
- nearly free-form graphical manipulation (i.e. unrestricted editing of graphical constructs and drawings); and
- nearly free-form gestural input for multimedia systems (i.e. no limited gesture sets).

Such an interface must be able to

- recognise most forms of human communication, such as sound or movement;
- understand a wide variety of background cultures (with the use of a semantic analyser) and make provision for a number of educational levels;
- manage error checking and control (plus acknowledgement) of many kinds of transformed or processed messages; and
- take over some human actions in case of the human's inability to continue communication and interaction (Balint, 1996:33).

Human factors that should be considered in designing communication and human-computer interfaces include the following (Patkin, 1996:170, 175):

- Cognitive factors, for example, perception and psycho-physics, attention, motivation, decision-making and judgement, procedural memory and semantic memory;
- instrumental factors, for example, individual, social and organisational communication goals and the relationship with other communication instruments;
- normative factors, for example, the cultural variation in the communication expectation, performance and norms, contextual and environmental factors, and ethical considerations;
- expressive factors, including code usage and message variability, and somatic factors such as anthropometry and biomechanics; and
- visual and auditory aspects.

Although some of these requirements seem idealistic at this stage, major breakthroughs have been made. Interfaces currently available include the graphic user interface (GUI), for example, Windows and Macintosh, the keyboard, mouse and joystick, the hypermediated page, links, telepresence and virtual reality (VR).

'Virtual reality is a computer interface that enables people to participate directly in real-time three-dimensional environments created from computer-generated simulated environments, digitized images of people and objects, or imported video. Most inclusive are full-emersion systems that provide first-person interaction within the computer-generated world via head-mounted stereoscopic displays, gloves, bodysuits, and audio systems, in which computers generate images on goggles with liquid crystal displays, offering the user the sensation of being in a different place' (Patkin, 1996:169). Applications of VR can be found in computer-aided design (CADD), computer education, medicine (biological visualisations and telepresence surgery), manufacturing and business (virtual teleconferencing). In a VR learning environment, the user can hone skills at his or her own pace and can focus on weaknesses (Patkin, 1996:168). Even more than in other interactive multimedia, users participating in responsive VR learning environments, in which they become engaged in full body-mind kinesthetic learning, not only retain more information but also demonstrate a better understanding of the information presented because the human brain processes information better when it is presented through the various senses (sight, sound, and touch) instead of just text and numbers. Users can practise the skills needed for real-life situations without the risks of injury to themselves or equipment damage. 'The attributes of VR that make it potentially useful for education include flexibility in the creation of a virtual world, ability to support

a feeling of presence, the ability of the user to control and interact with objects and characters within the virtual world, and physical feedback from the virtual world' (Patkin, 1996:173).

4.4 Evaluation

Communication can be seen as a human need that exists among and between people. The need arises as a result of a person's need for information, products and services, but also from the need for affection, interaction, relationships, etc. Through communication, cognitive, affective and behavioural responses can be elicited from recipients. However, the interpretations and uses of communication symbols by participants may differ considerably as a result of their differences in skills, beliefs, attitudes, opinions, perceptions and socio-cultural background. Knowledge of the target audience and feedback are therefore of primary importance for the correct interpretation and validation of communication messages.

The fact that people perceive messages differently makes the outcome of communication aimed at mass audiences unpredictable. Digital communication, which can also communicate on a personalised level to mass audiences, has the potential to fill this gap.

Apart from the participants, the objective of the communication, the message itself and the chosen medium impact on the success of the communication. Yet again, feedback is the primary measure to ensure the success of the communication.

Inherent in digital communication are a number of attributes that may enhance the communication process. These include:

- the existence of a cyber community of people who interact with one another on a personal level;
- immediate feedback for the correction of deviant interpretation of the message, validation of the information, and reinforcement of the message based on the feedback;
- a variety of media (multimedia) that make an impression on more than one of the senses, thereby improving recall, learning and retention on the one hand, and on the other the availability of graphic and verbal messages that may fulfil the needs of the illiterate and semi-literate;
- interactivity to enhance learning through extended engagement, reinforcement, participation and achievement;
- diversity of communication ranging from intrapersonal to mass media;

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- synchronistic and asynchronistic methods to suit the needs of various users;
- variety of links (hypermedia) to facilitate different needs regarding level of content, language, quantity of information, cultural diversity, scope of information, etc.; and
- a measure of control over content, frequency of access, level of information, quantity of information, etc. that can be transferred from source to recipient.

No facet of human life is possible without communication. It forms the cornerstone of all human interaction and influences our view of the world, including the way we see and think of our bodies, health, wellness and well-being.

In this chapter, communication *per se* and digital communication have been placed in the spotlight. It has been explained that digital communication has a number of attributes that may enhance health communication.

One of the ways in which communication may be described is according to the milieu in which it takes place, for example education or health. As this research dealt with communication within the ambit of health care, it was necessary to explore communication in health care. Chapter 5 gives insight into this facet.

Chapter 5 Communication in health care

5.1 Introduction

Communication is a vital and integral part of health care. However, it is often taken for granted, its complexities and subtleties are overlooked and it receives little attention in the literature on health care. Effective communication is as important to high quality health care as technical competence (Kreps, 1993c:56), as demonstrated in this chapter.

Until fairly recently, the emphasis in research on health communication was on the interpersonal, dyadic interaction between doctor and patient. The communication needs of the doctor received the most attention, while the needs of the consumer were mostly ignored. As the trend in modern health care shifted from a paternalistic model (in which the doctor prescribed and the patient had merely to comply) to a participative, consumer-oriented approach, a new perspective on health communication became evident, namely, shared decision making (Ballard-Reisch, 1993:66). This approach brought the importance of communication within health care to the fore.

Today, health communication takes place in an open system environment. The health care consumer (client) is in the centre of the system. He or she is surrounded by and interacts with service providers (health professionals such as doctors, dentists, psychologists and managed health care companies) within particular health care settings (e.g. hospitals, clinics and consulting rooms). Except in outreach programmes and health promotion programmes, the client is usually the initiator of health care. Both clients and health professionals interact with the health care settings and external environment from where necessary and sometimes vital information is obtained (Kreps & Thornton, 1992:42–45).

In all of these interactions, effective communication is needed to facilitate the cooperation between health professionals and clients, to empower the client to make the best health care choices and to deliver high quality health care. As a patient, the client often enters a strange world populated by strangers uttering unfamiliar words. The patient is expected to respond with appropriate attitudes and behaviours. For example, the patient is required to go to a hospital and remove his or her clothes and other belongings. He or she must follow detailed hospital rules and regulations. Individual freedom is severely curtailed and the patient is subjected to detailed physical examinations. Often the patient does not understand what the questions mean and lacks the

vocabulary to respond accurately and appropriately. Communication is the key to relieving much of the stress and anxiety experienced by patients. If this aspect is not addressed by all members of a health care team, as well as the patient, the result may be confusion, misinterpretation, lack of behavioural change and noncompliance to treatment (Rensburg, 1995:162).

In addition to the care of patients, one of the most important objectives of modern health care is to reduce health risks and promote health (see 3.3.1, 3.3.2 and 3.3.3). To accomplish these aims, relevant health information is needed. The purpose of health promotion is to provide consumers with relevant health information about strategies that they can use to resist health threats and respond to current health problems. The provision of relevant health information to the people who need it most is a communication challenge to health care professionals (Thornton & Kreps, 1993b:127). New and innovative ideas to meet this challenge are welcomed. However, no guidelines to accomplish health promotion through new communication media could be found in the literature. Before an indication can be given of how new media can be utilised for health communication, it is necessary to discover the ways in which health communication takes place, the principles and processes underlying health communication and the barriers to communication in health care.

These aspects are the focus of this chapter. First a definition of health communication is given and then the participants in health communication are discussed. Next follows a discussion on considerations specific to the participants in health communication and the various health models they use for communicating. Their ways of communicating, verbal and non-verbal, receive attention, as well as health promotion campaigns and health marketing, important methods of reaching mass audiences. Lastly, barriers to health communication are highlighted.

5.2 Definition of health communication

Communication for the purpose of this research has been defined as the transmission of information by means of a channel from a source to a recipient, with a particular purpose (see 4.1).

Health communication is a subset of communication that concerns itself with how individuals in a society seek to maintain health and deal with health-related issues, that is, how health-related messages are disseminated, accessed and interpreted. The focus of health communication is on specific health-related interactions by which individuals ascribe meaning to their experiences, their

efforts to share such meanings and adapt behaviour appropriately, and on the factors that influence this interaction (Finnegan & Viswanath, 1990:12; Thornton & Kreps, 1993b:33; Rensburg, 1996:211–212).

When health professionals only tend to the maintenance of the physical well-being of their clients and dismiss or ignore the communicative aspects, they perform their tasks on a simplistic and even dangerous basis, because all those involved in a treatment process base their questions, inferences and recommendations upon the meanings that they derive from the symbols of communication. Interactions may be verbal or non-verbal, oral or written, personal (informal) or impersonal (formal), and issue-oriented or relationship-oriented, but they all contribute to the quality of health care (Kreps & Thornton, 1992:2; Thornton & Kreps, 1993b:33; Rensburg, 1996:211–212).

Communication is the singularly most important tool available to health professionals for promoting health, providing health care services and gathering pertinent information from clients, explaining procedures and treatments, and eliciting cooperation from members of a health care team. 'The clarity, timeliness, and sensitivity of human communication in health care is often critical to the physical and emotional well-being of all concerned' (Kreps & Thornton, 1992:2).

5.3 Participants in health communication

As was seen in 4.2.3, the messages people send can define relationships. The communication relationships between health care providers and clients have a major influence on health care practices (Kreps & Thornton, 1992:3). Relationships are formed between the source(s) of health communication and the recipient(s). The source may be an individual, a group, an organisation or a mass medium. Likewise, the recipient may be an individual, a group, an organisation or a mass public. Nurses, health administrators, social workers, doctors, health educators, communication specialists, occupational and speech therapists, physiotherapists, pharmacists, public health personnel, etc. are all considered health professionals who disseminate health care messages in a variety of health care settings. The recipients are the individuals towards whom health services and health promotion are directed.

5.3.1 Individuals

In interpersonal communication, a relationship is established between two or more people (dyad), in this case a health professional and a client. The relational partners both have expectations

regarding the fulfilment of their specific needs. Strong interpersonal relationships are formed when these needs are met. The needs and the role each relational partner plays towards meeting the needs have an effect on communication. While some role definitions are clear, others are ambiguous. Today, the institutionalised roles of doctor, nurse, and patient or client are undergoing considerable change (Rensburg, 1996:223). New-generation health care professionals, such as case managers and health educators, have come to the fore to challenge the traditional roles of doctors and nurses.

Health care clients use interpersonal communication to:
- obtain relevant health information about their health problems and treatments;
- elicit the cooperation and respect from health professionals;
- make complex and far-reaching health care decisions;
- cope with the often restrictive bureaucracy of the health care system; and
- cope with health problems (Kreps, 1993c:55).

Health care professionals use interpersonal communication skills to:
- establish rapport with a client;
- elicit full and accurate information from clients and health professionals;
- increase compliance to treatment; and
- empower the client to make informed health care decisions.

Therapeutic (that is, contributing to the cure of disease or general well-being – *The Oxford dictionary and thesaurus*, 1995:1620) communication on an interpersonal level is particularly important in the treatment of illness and disease (Ballard-Reisch, 1993:67). The aim of therapeutic communication is to help an individual to understand himself or herself better and to empower him or her to make health care decisions that achieve needs fulfilment and goals (Kreps & Thornton, 1992:47). For successful dyadic communication, cognitive (ability to perceive) and behavioural (ability to adapt) skills are needed from both participants in the context of a specific situation. Within the health care context, successful communication is defined in terms of effective interaction aimed at therapeutic outcomes (Ballard Reisch, 1993:67). However, therapeutic communication can also be mediated.

Learning by action has long been considered the primary method of learning. It has now been found that virtually all learning can also occur indirectly by observing other people's behaviour and

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its consequences. 'The capacity to learn by observation enables people to acquire rules for generating and regulating behavioral patterns without having to form them gradually by tedious trial and error' (Bandura, 1986:19). In health care, where mistakes can be fatal, an effective method of learning is modelling or observational learning. Individuals who are successful in coping with certain problems can serve as models for others. This may also take place within group communication settings where group members help each other to solve problems and improve self-efficacy (Maibach, 1993:211; Taal, Rasker, Seydel & Wiegman, 1993:74).

Models make the greatest impression on a recipient when they are unique, relevant, simple and easy to follow, of a similar demographic background, slightly more socially prestigious, warm and nurturing in personality and slightly more competent in the modelled behaviour. In addition, a variety of models and application settings should be presented. When the rules that guide behaviour and the contrast between effective and ineffective behaviour are demonstrated, the influence of a model increases (Maibach, 1993:212).

Health communication does not only occur between a health professional, other health professionals, role models and clients, but also between and among clients and members of the public. The power of individuals to influence one another regarding their health beliefs, attitudes and opinions should not be underestimated. At various stages in the health decision-making process, the support, assistance and even advocacy of a non-professional may be needed (see also 5.3.4 and 5.6.5).

5.3.2 Groups

Groups within the health care setting communicate with one another. A group consists of three or more people whose behaviours have a mutual and reciprocal effect on one another. Small-group communication has become a major mechanism for accomplishing health care (Welch Cline, 1990:74). Rensburg (1996:223) defines group communication as the 'verbal and nonverbal communication that occurs among a collection of individuals whose relationships make them to some degree interdependent', for example, health care teams, self-help groups, focus groups and therapy groups. Groups provide information, support, and problem-solving abilities that individuals cannot provide independently (Kreps & Thornton, 1992:16).

Case management is a current group model used by many health care teams, particularly in managed health care. Case management utilises clinical expertise and health information as well as a business approach to managing care (Kreps & Thornton, 1992:82).

A health care team may consist of a variety of technical, medical and paramedical professionals and semi-professionals who provide various services needed by a client and who coordinate a holistic approach to health care. All members may come from the medical fraternity or the team may be interdisciplinary.

The aims of health care teams are to:
- oversee health care;
- use resources more efficiently and cost effectively;
- offer comprehensive, holistic and higher quality health care; and
- shift patients from an illness orientation to a health orientation (Welch Cline, 1990:71–73).

The success of a team is based on managing the dynamics of group interaction, such as leadership, role delineation and negotiation, goal-setting, problem-solving, conflict, power, authority, trust and support (Rensburg, 1996:224, Welch Cline, 1990:72–73). When a health care team functions successfully, the satisfaction levels of both client and health professionals increase (Kreps & Thornton, 1992:83). The importance of communication in a health care team is self-evident.

One of the modern trends of society is the shift from institutional help to self-help (Welch Cline, 1990:75), a tendency that on the one hand may be a result of health promotion and, on the other hand, may facilitate it.

Self-help groups are formed to support people who are coping with crisis, anxiety, stress, uncertainty, role transition (e.g. after divorce/death of a spouse or retirement), health problems, etc. These groups usually share only one particular problem or situation, but they create and sustain continuous ties that play an important role in the maintenance of the psychological and physical well-being of their members. Well-known self-help groups are Alcoholics Anonymous, SmokeEnders and Weight Watchers.

The effectiveness of self-help groups relies on communication that is characterised by reciprocity of self-disclosure, empathetic honesty, acceptance of all members and symmetrical interaction, that is, from equal to equal rather than from subordinate to superior or vice versa (Rensburg, 1996:224; Welch Cline, 1990:78). Self-help groups expose new members to role models (see 5.3.1) and provide a safe environment in which members can rehearse new roles. Members share information, gain feedback, and identify behaviour in one another for the purpose of regaining control of their lives (Welch Cline, 1990:78–79). Self-help groups are viable alternative sources of social support when family, friends and health professionals are unavailable or unwilling, or the member feels alienated from self and society, or as a complement to traditional health services, as in the case of chronic disease sufferers (Welch Cline, 1990:75–77).

Focus groups, traditionally associated with marketing, are valuable tools used extensively in health-related research and programme planning. The aims are to obtain qualitative data and feedback about feelings and opinions of small groups of participants concerning particular problems, experiences, services, health promotion ideas, messages, strategies, etc. This information can be used for health care research and promotion programmes. In the early stages of promotion programmes and health campaigns, focus groups are used to obtain general agreement among a sample group, because usually there is a social distance between programme planners and the recipients of messages (Welch Cline, 1990:70, 83, 85).

5.3.3 Organisations

As health care occurs within an open system, communication takes place internally in organisations and externally between organisations. Within organisations, communication occurs during the performance of organisational tasks and the reaching of goals. Externally, organisations communicate to coordinate activities between interdependent organisations within the larger health care system (Thornton & Kreps, 1993b:100). Services, treatment and information are provided to health professionals, administrators, policy makers, clients and their families, etc. (Ray & Miller, 1990:99; Rensburg, 1996:225; Thornton & Kreps, 1993b:99).

In the ever-changing health care environment of today, clients are often confused and uncertain of their rights and privileges, and of practical aspects such as procedures and treatment protocols. 'As health knowledge has increased, health care services have become more complex' (Kreps & Thornton, 1992:110). The client is confronted with a variety of situations over which he or she has little or no control. Sometimes the client makes use of an 'advocate', representative or interpreter

to find relevant information from health care administrators and providers, solve administrative problems, and make sure that his or her wishes are heard and understood when treatment decisions are made.

Informed health care consumers who are aware of their rights as clients and who are actively involved in directing their own health care can more easily overcome the red tape of health care bureaucracies (Kreps & Thornton, 1992:106). If clients are knowledgeable about hospital rules, regulations, and procedures and understand the workings of the health care system, they are in a good position to direct their own health care and they can then overcome the intimidation, confusion and dehumanisation often experienced when dealing with health care complexities.

For most individual consumers, serious health problems are too complex, confusing and unpredictable to fully interpret, understand, and adequately respond to without the assistance of a health care organisation with its well-trained personnel and specialised equipment (Kreps & Thornton, 1992:106–107). A health care organisation should provide consumers with information processing resources to help them understand and solve their health problems. It is in the interest of health organisations to assist health consumers in such a way that health care is sustained.

5.3.4 Mass public

In accordance with the aims of the Ottawa Charter for Health Promotion of 1986 (see 3.1) and the decisions of the World Health Conference held in Cairo in 1994, the number of efforts to promote health and prevent disease has increased. By making use of mass media, health professionals can disseminate their messages to the public in general. Although the ability of mass media as tools for bringing about long-term changes in attitudes and behaviour is uncertain, they can be effective for increasing awareness of health issues and, when supplemented by other means of communication, can play an important complementary part in changing attitudes and behaviour (Rensburg, 1996:225).

To give perspective on the influence of mass media on the lives of health consumers, Neuendorf (1990:112) explains as follows: A person may consult a doctor a few times per year, but may read a medical article in the newspaper or magazine a few times per month, watch a TV programme showing some or other medical problem a few times per week, and may encounter a medical advertisement a few times a day. 'As media become more user-driven, expanded formats [of

communication] will become possible. A rented educational video on prevention of heart attacks can be viewed over and over' (Neuendorf, 1990:130).

When exposed to mass media, people are guided by cognitive and affective forces in their endeavour to process the information given in a message. According to Donohew (1990:137), health campaigns therefore should take cognisance of the way humans process information and various strategies and methods for attracting and holding the attention of a target audience. Arousal, attention, cognition and the design of messages should receive attention (see also 4.2.3). For example, there is a limit on how many messages a consumer will be able to digest before confusion sets in (Donohew, 1990:137).

Social marketing is a concept that is now being applied extensively to the mass media handling of a variety of health issues (see 5.7.2). Social marketing focuses attention on the recipients of communication in their social, political and economic environment. Therefore, campaign planners not only consider what they are trying to get people to do or not to do, but also why the target audience might be motivated to comply with or might resist the desired behaviour (Rensburg, 1996:225). Yet again, there is a shift away from what the health professional wants to what the client needs.

5.4 Considerations in health communication

In health care, the 'care' refers to the 'level of emotional involvement communicators express for one another, ... the demonstration of interest and concern for the other person's well-being' (Kreps & Thornton, 1992:51). In health communication, a number of variables are central to the success of communication. These are empathy, control, trust, self-disclosure and confirmation (Rensburg, 1996:212). In addition, the transfer of messages through verbal and nonverbal communication has particular importance in a health care setting while, from a patient compliance perspective, self-efficacy is a key issue in the success of communication.

Although most of the literature refers only to the dyadic situation, the underlying principles are applicable to all health communication situations.

5.4.1 Empathy

Empathy is regarded as the most important variable for successful health communication. It affects the communication results in all types of relationships, including that between health

professional and client. Empathy is 'the power of identifying oneself mentally with (and so fully comprehending) a person, or object of contemplation' (*The Oxford dictionary and thesaurus*, 1995:480). It includes being sensitive to the changing emotions that flow in the other person, be it fear or rage, tenderness or confusion. Empathy is an ability to develop a full understanding of a client's condition and feelings and to relate that understanding to the individual (Kreps & Thornton, 1992:49).

Empathy plays an especially important role in effective interpersonal health communication where the emphasis should be on the client who experiences a problem (Rensburg, 1996:212). Empathy may occur at several points within the health communication process. Many qualities are needed by those who wish to show empathy, for example, observational skills, communication skills, perceptual skills, emotional sensitivity and caring. Through empathy, health professionals better understand their clients and their problems, as well as other health professionals in the health care team. Being understood helps clients to cope with the emotions of fear and confusion caused by illness (Rensburg, 1996:213).

5.4.2 Control

Like empathy, control is a part of every communication event and an intrinsic component of human interaction in general. Personal control is the perception that people can influence the way in which circumstances affect their lives. The more personal control a client perceives, the less his or her feelings of powerlessness, even if the control is not directly exerted. People need to see their environments as controllable and predictable.

Relational control refers to the perceptions people have about the centre of control in interpersonal relationships, that is, their hierarchy of connection to others. It includes the degree to which people feel able to influence the nature and development of relationships. When individuals within a relationship share relational control, more effective interpersonal communication is the result (Rensburg, 1996:213–214).

Illness causes uncertainty and, in turn, uncertainty brings about feelings of loss of control. The result is fear, anger, helplessness and incompetence. To help clients cope, health professionals should strive to restore their sense of control. Some patients are internally orientated and take charge, while others are externally orientated and take a wait-and-see approach in their preferences for control.

Control assists health professionals to work effectively with clients and other health professionals. However, after a careful assessment of the specific situation, clients should be given free control in cases they can manage alone, with a health professional in a supporting role in cases they cannot manage alone. Sharing control in health is complex and may differ from situation to situation (Rensburg, 1996:214). In managed health care, the management, responsibility and control of an illness or disease is shared or transferred to the client whenever possible in order to increase compliance and contain costs.

5.4.3 Self-efficacy

Linked to personal control is the concept of self-efficacy. Self-efficacy is a personal assessment of and belief in the ability to perform a particular type of behaviour under specified conditions to influence existing circumstances (Maibach, 1993:210), for example, while recuperating after a serious illness or when coping with a chronic disease. People's perceptions of their capabilities influence their behaviour, motivation, thought patterns and emotional reactions. In general, people are motivated to engage in behaviours for which they feel highly efficacious. Communication should therefore focus on enhancing people's sense of self-efficacy associated with a particular behaviour. In research, positive feedback instilled a strong sense of efficacy in clients (Bandura, 1986:425). Self-efficacy can also be enhanced with the appropriate use of behavioural modelling (Maibach, 1993:214) (see 5.3.1).

High self-efficacy leads to commitment, resourcefulness and perseverance, the qualities needed for most human endeavours. Health communication that strengthens self-efficacy expectations about managing illness and disease could result in better self-management and eventually better health status and more cost-effective care — precisely what managed health care is aiming at. The perceptions of family, friends and other support structures regarding a patient's ability can be a motivating factor to change health behaviour and adhere to treatment. It is therefore also important to educate the patient's spouse and other close relatives (Taal *et al.*, 1993:64–65, 74). Self-efficacy is influenced by previous experiences with the specific behaviour, other people's experiences with the behaviour, verbal persuasion that strengthens a patient's capability to engage in the desired behaviour and feedback from the conditions experienced when anticipating or engaging in the behaviour (Maibach, 1993:210).

Research has also indicated that perceived self-efficacy makes preventative health behaviour possible. 'Unless people believe they can master and adhere to health-promoting habits, they are unlikely to devote the effort necessary to succeed' (Bandura, 1986:438). People who are given personal control over their daily activities are happier, more actively interested and sociable, and physically healthier than those who do not have personal control, as was discovered in research among the elderly (Bandura, 1986:439). People not only need knowledge to regulate their behaviour but also a firm belief in their personal efficacy to change possible future ill health into effective preventative action. People must believe that they have the capability to alter their health habits before they are willing to do so. Communication that explicitly strengthens the belief in capability increases people's determination to modify habits detrimental to their health (Bandura, 1986:439).

5.4.4 Trust

Trust is the 'firm belief in the reliability or truth or strength' of a person or thing (*The Oxford dictionary and thesaurus*, 1995:1676). It means that a person will respect another person's needs and desires and behave towards him or her in a responsible and predictable manner (Kreps & Thornton, 1992:49). It also means accepting another person without evaluation or judgement. Through trust, events are seen as predictable and people as basically sincere, competent and accepting (Rensburg, 1996:215).

Because clients and patients feel particularly helpless, vulnerable, insecure and in need of support, trust plays an essential part in establishing effective relational partnerships in health care. Trust helps to lessen feelings of depersonalisation or dehumanisation. By predictable professional behaviour, clients learn to trust health professionals and rely on their knowledge and integrity.

The existence of trust between a health professional and a client has advantages for both. Trust increases a client's sense of security because he or she does not feel alone in the particular situation but that another cares about him or her. This leads to individuals being more open and honest about their attitudes, feelings and values, and more willing to take responsibility and control. Trust also creates a supportive climate that is important for treatment and compliance. All interactions between health professionals and clients have an influence on trust. When communication takes place in ways that create positive reactions, health professionals create trust and credibility (Rensburg, 1996:215).

5.4.5 Self-disclosure

Kreps and Thornton (1992:50) refer to self-disclosure as honesty, which is the 'ability to communicate truthfully, frankly and sincerely', where the communication (verbal and non-verbal) includes personal information, thoughts and feelings. It is important, though difficult to elicit, mainly because clients feel vulnerable and uncertain. Where trust is lacking, a client may feel that he or she will be judged as weak, excessive or strange. Other problems that hinder self-disclosure are language problems (clients cannot make themselves understood verbally); intercultural communication problems; and influences from the environment (e.g. a traditional belief system) (Rensburg, 1996:215).

5.4.6 Confirmation

'Confirmation occurs when individuals respond ... in ways that indicate to others that they are acknowledged and understood. ... [It is a] means of communicating that focuses on the ways individuals experience the world and ascribe meaning to events' (Rensburg, 1996:216).

When health professionals communicate in confirming ways, they recognise clients as unique individuals with real problems; they validate the client as a person. Clients often experience feelings of depersonalisation, rejection and alienation in health care settings. Unfortunately, time pressures, unacceptable working conditions in some hospitals, strikes, rotating shifts and even staff shortages contribute to these feelings and hinder the sharing of meaningful communication. Confirming communication shows direct acknowledgement, respect and agreement about the content of communication messages (Kreps & Thornton, 1992:40, 50; Rensburg, 1996:217).

5.5 Verbal and non-verbal communication in health care

In health care, communication is a means of creating meaning from messages. The messages can be internally (thoughts and feelings) or externally generated (communication). External messages can be communicated verbally and non-verbally (Rensburg, 1996:218).

In verbal health communication, meaning can be derived from a semantic perspective, that is, from the meanings associated with the words, or a pragmatic perspective where the way in which people use words in different situations are examined (Rensburg, 1996:218).

Jargon is an example of pragmatic language that is used in health care settings by health professionals. Depending on the situation, jargon may be beneficial, but other uses of jargon may be detrimental to high quality health care (see also 5.8.9).

Non-verbal communication is important in health care settings because verbal communication may be hindered by a lack of appropriate vocabulary, emotional condition of the client, unfamiliar surroundings, differences in culture, or any of the barriers to successful communication (see 5.8).

Usually health professionals are recognisable by artefactic cues, such as uniforms, equipment and patient or client files. Some uniforms are white or light in colour to symbolise and communicate cleanliness and disinfection. Artefactic messages may have a strong influence on the initial perceptions and first impressions people have about health professionals and health care settings (Kreps & Thornton, 1992:31; Rensburg, 1996:220).

Kinesic messages are the way people move their bodies and position themselves, for example postures, gestures, head nods and leg movements. These could indicate whether someone is closely involved or feels distant and removed from a given situation, or has positive or negative feelings towards a situation and those around them. When the client is unable to verbally express his or her feelings, a health professional can take note of a client's gestures (Rensburg, 1996:220). These gestures may indicate fear, tenseness, uncertainty, distrust, etc. Information gained from kinesic cues is used to direct verbal responses to the client during treatment (Kreps & Thornton, 1992:32).

Occulesics, or facial expressions and eye behaviour such as blinking, are used to indicate a person's emotional state and level of involvement in a situation or other person. Facial expressions are considered main sources of emotional information. If a health professional uses occulesics thoughtfully and considerately, it may help clients feel more at ease in health care settings (Rensburg, 1996:220).

Paralinguistic communication includes vocal cues (e.g. volume, pitch, tone and rate) that accompany speech and environmental sounds. Most people are sensitive to paralinguistic expression. The tone of voice that a health professional uses could communicate to the client the level of sincerity and caring, or a lack of interest, intimidation, aggressiveness and contempt, or confirmation of the client as a person (see 5.4.5), and may have a significant effect on the client's

level of compliance. Environmental sounds (e.g. equipment noise, music, wind, traffic noise) can either add to or detract from establishing a relaxed communication climate between clients and health professionals (Kreps & Thornton, 1992:33; Rensburg, 1996:220).

Tactilic communication (touching behaviour) should be used with caution in health care settings because some clients may experience it as an invasion of privacy. Nevertheless, human touch fulfils physiological and sociological needs for people and may be a method of showing empathy and caring (Kreps & Thornton, 1992:34; Rensburg, 1996:221). For example, the therapeutic effect of touching children with HIV/AIDS has been proven in the South African environment (*Senior bulletin*, May 2000:1)

Proxemic communication relates to the need for distance between people and objects, popularly known as personal space. This includes people's feelings about their possessions. In health care, all participants should take care to recognise and abide by the personal space expectations of others so as not to make people feel uncomfortable. The spatial arrangement of chairs for group meetings, crowdedness in a consulting room or an uncomfortable temperature may also influence the communication encounter (Kreps & Thornton, 1992:34–35; Rensburg, 1996:221).

The term chronemics refers to the effect of time on communication. Health professionals often keep clients waiting, not realising how the waiting time has a negative influence on the establishment of effective communication relationships (Rensburg, 1996:221).

In health-care settings, especially in consulting rooms of health professionals and in hospitals, the smells of disinfectants and other medicines communicate to patients that they are in a medical environment. This type of non-verbal communication is known as olfaction (Rensburg, 1996:221).

Non-verbal communication is usually accompanied by verbal communication; the one complements the other. Non-verbal communication can also repeat, contradict, substitute, emphasise, or regulate verbal communication and therefore care should be taken when non-verbal communication is applied. Both health professionals and clients should be aware of the influence of non-verbal communication on one another and, because non-verbal communication is culturally oriented, it should be kept in mind that non-verbal behaviour may have different meanings in different cultures (Rensburg, 1996:222).

5.5.1 Narrative communication in health care

Kreps and Thornton (1992:37) say that 'stories are a fundamental communication medium, a creative communication structure for connecting ideas together to make sense of what might otherwise be ... unconnected and confusing'.

Through narrative communication, much more than the semantic content of the words usually is revealed. In general, people tell stories to:

- recount and account for their experiences;
- organise and share with others their personal versions of reality;
- connect people to shared ideologies and logics by giving them a common means for interpreting and discussing life experiences;
- provide common frameworks for predicting the future;
- make sense out of nonsense;
- entertain, dramatise, excite, educate, frighten or humour, thereby keeping an audience's attention and increasing the impact of messages;
- bring concepts to life;
- illustrate life situations dramatically; and
- enable an audience to personally relate to the issues (Kreps & Thornton, 1992:36–37).

Good stories persist over time and they are retold by and to different people. They cause the listener to think about the implications of the story for his or her own life (Kreps & Thornton, 1992:37). In health care, stories are the means by which people make sense of their personal health conditions – it is a method people employ to help them cope.

Clients utilise narrative communication to explain their symptoms to health professionals, and their emotions about these health problems. They connect current health problems with previous experiences, beliefs about the health experiences of family or friends, or the general cultural beliefs about health. These types of information would be very difficult for health professionals to gather in any other way (Kreps & Thornton, 1992:37–38).

Ideally, a health professional should allow more time for narrative communication, because it can be used to humanise health communication and appear less distant to clients and colleagues. Even stories about personal experiences unrelated to health care can make health care providers

appear to be more human. Stories, or case studies, are also good methods of emphasising important points that clients have to pay attention to and remember. For example, telling a story about how a former client went into diabetic shock after failing to take insulin correctly may serve as encouragement not to make the same mistake (Kreps & Thornton, 1992:38).

In a health care organisation, stories may be used to reduce uncertainty, manage meanings, facilitate member bonding, and establish reputations for organisations.

The stories being told about health care treatment shape the development of culturally based health beliefs. A person's health beliefs have a powerful influence on his or her values and health behaviour. Cultural orientations to health are often revealed in the stories people tell about health and health care (Kreps & Thornton, 1992:39).

People's readiness to listen to stories can be utilised in health promotion. The possibility to customise (and not merely translate) health information to reach specific cultural groups can be used to the advantage of culturally diversified populations. In traditionally oral communities, the art of storytelling is well developed. Opinion leaders and change agents could, for example, be supplied with basic storylines. Human interest stories are usually also well received by the popular media.

5.5.2 Humour in health communication

Humour always has a place in communication. It can be used to reduce stress, relieve tension and overcome discomfort. Humour can be successfully used to promote exercise, good nutrition, good health habits, etc. Cruel or inappropriate jokes in a therapeutic interaction should be avoided but gentle humour can be useful (Kreps & Thornton, 1992:52).

5.6 Models of health communication

People respond to illness and health in different ways. For example, some people ignore and deny health threats, while others face threats, collect the necessary information and act accordingly and appropriately (Barnlund, 1993:40). To better understand the ways in which clients and health professionals interact with a particular health outcome as objective, a number of models have been developed. All the models make contributions towards understanding successful health communication. The most well known are the therapeutic model, health belief model, health belief

model for compliance, King's interactive model, model of participative decision making and the development model.

5.6.1 Therapeutic model

Therapeutic models of health communication emphasise the importance of relationships in assisting clients to adjust to circumstances and move from a perspective of illness towards one of health (Rensburg, 1995:177). The Rogerian model, for example, explains how health professionals communicate if they choose to be client-centred. Health professionals who wish to help their clients confront and cope with an illness communicate with empathy and caring, with a positive regard for the client and in a fitting manner by expressing his or her own thoughts and feelings. The emphasis in a therapeutic model is on dyadic communication (Rensburg, 1996:227).

Honesty and confirmation are key characteristics of therapeutic communication. Success also depends on accurate empathy and understanding, trust, non-possessive warmth and respect, genuineness, authenticity and a non-judgemental attitude (Kreps & Thornton, 1992:48; Rensburg, 1995:179).

5.6.2 Health belief model

The health belief model gives an indication of how healthy individuals seek to avoid illness, that is, it explains the nature of an individual's preventative health care. The model is based on four major dimensions, namely,

- a perception of susceptibility to and the severity of a disease or illness;
- a perception of the benefits and barriers applicable to taking a preventative health action regarding the disease or illness;
- the cues available to prompt participation in preventive health care; and
- demographic and socio-psychological variables, or modifying factors, that indirectly influence perceptions and beliefs (Rensburg, 1996:229).

The health belief model was designed to indicate how an individual's health behaviour is influenced by a perceived threat on the one hand and a perceived benefit on the other. In this model, the impact of mass-media messages on health behaviour is illustrated. The emphasis is on perceptions and beliefs that could be modified and that would then result in changed health behaviour. As such it is a valuable model for the development of health promotion programmes.

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The model also explains why clients seek health services and why they comply with treatment (Rensburg, 1996:229).

Communication features strongly in this model. Communication is an essential tool for providing the necessary cues that prompt health care action and motivate health prevention steps. Cues may be found in mass communication (radio, TV, newspapers, magazines, etc.), newsletters, advice from others, posters, flyers, reminder postcards, etc. Demographic and socio-psychological variables play a substantial role in this communication (Rensburg, 1996:229).

Although the health belief model gives valuable insight into preventative health care behaviour, individual responses to cues remain unpredictable (Rensburg, 1996:229–230). This may be due to insufficient feedback.

5.6.3 Health belief model for compliance

The health belief model discussed above was expanded by Becker (1974) to include the health beliefs of patients already suffering from an illness and having to comply to treatment. The aim was to predict patient compliance to treatment, given the variables incorporated in the model. Such predictions can assist a health professional in designing interventions that would suit the particular needs of each patient (Becker, 1974:83).

In this expanded health belief model for compliance, the concept and measures of personal susceptibility are expanded and new dimensions added. The patient's belief in the accuracy of the diagnosis is incorporated, as well as the patient's estimate of the likelihood that the illness will recur if he or she has had the illness before, and the patient's own feelings of vulnerability to other diseases, or the illness in general (Becker, 1974:84). It was also found that a patient's compliance with treatment depends on his or her perceptions of the seriousness of the illness, which is often influenced by the presence of physical symptoms that motivate the patient to follow the health professional's instructions. Under extreme high or low levels of anxiety, compliance decreases, but it has generally been found that compliance decreases as soon as patients feel better. However, positive health motivation may also be a motivation for compliance (Becker, 1974:85, 87).

It has also been shown that client compliance with therapy is related to a patient's belief that the treatment will be to his or her benefit before he or she will comply. Faith that the professional care will be effective correlates with a patient's compliance, as was found in studies on follow-up care

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for children of school age (Becker, 1974:86). Barriers to compliance may include the following: extent of intervention needed to adopt new patterns of behaviour (also the extent to which work, family, or social life may be influenced); complexity, duration and side-effects of the treatment; and accessibility of treatment (Becker, 1974:86). For example, at the World Aids Conference held at Geneva in 1998, the following was said about the intervening nature and extent of AIDS treatment: 'Welcome to your new part-time job'.

Modifying factors in the expanded model include 'demographic, structural, attitudinal, interaction and enabling factors which are either sociobehavioral variables themselves, or which affect sociobehavioral dimensions' (Becker, 1974:87). Of particular importance is the client–health professional relationship. Compliance increases when the initial contact has been satisfactory, the health professional is perceived as friendly, the compliant was understood, and the expectations from the visit met (Becker, 1974:87). Non-compliance is also linked to the health professional's failure to explain the purpose of the treatment and the necessity of follow-up appointments. Health professional continuity has been found to contribute to compliance (Becker, 1974:87).

Studies have shown that 'compliance is not consistently related to sex, intelligence, education, or marital status' (Becker, 1974:88). The only demographic variable that seems to have an influence is age, probably because of general forgetfulness among the elderly. Personality does not seem to have and influence on compliance.

5.6.4 King's interaction model

This model was developed primarily to explain the communication taking place between a nurse and a patient, but it contains many elements of health communication in a system environment that make it applicable to health communication in general (Rensburg, 1996:230).

The process and transactional aspects of human communication as well as the feedback concept is incorporated in this model. During nurse–patient interactions, both the nurse and the patient simultaneously make judgements about their circumstances and about each other, based on their perceptions of the situation. This leads to verbal and/or non-verbal feedback reactions in both participants, which may lead to new perceptions being established. The participants' perceptions, judgements and actions result in a dynamic process of interaction. 'Transactions are the result of the reciprocal relationships established by nurses and patients as they participate together in

determining mutual health-related goals' (Rensburg, 1996:230). A feeling of trust between nurse and patient is seen as an important factor in establishing the relationship (Rensburg, 1995:179).

5.6.5 Model of participative decision making for doctor–patient interaction

'Prior to the 1980s, the doctor–patient relationship was one in which the physician prescribed and the patient complied' (Ballard-Reisch, 1990:91). However, since then a shift has occurred from a medical model to one in which the patient participates as an active partner in mutual provider–patient decision making. It was found that participative decision making can result in

- increased acceptance of solutions
- increased levels of satisfaction
- greater commitment to health care decisions.

Decisions must be supported by those who must carry them out before they can be implemented successfully. 'High-quality interaction leads to high-quality solutions' (Ballard-Reisch, 1990:92–93).

Decision making is facilitated by information. Therefore, client satisfaction depends on the extent to which expectations for information are met. When clients receive too little information or when communication barriers exist between them and the health professional, they are more likely to either refuse treatment or decrease compliance. Clients should therefore be fully informed about their conditions and the available treatment alternatives (Ballard-Reisch, 1990:94).

According to the model of participative decision making, decision making takes place during three phases, namely the diagnostic phase, the phase of exploring treatment alternatives and the phase of treatment decision, implementation and evaluation. Until recently, the health professional took full responsibility for interpreting the gathered information, exploring the alternatives, establishing criteria for treatment and weighing the treatment options, but today the client participates in these processes. However, the health professional and client may pass through the stages of decision making at a different pace and with different perspectives. This may lead to uncertainty and conflict, a situation that will have a limiting effect on successful communication and information transfer (Ballard-Reisch, 1990:94–96).

Even though the health professional may have surpassed the decision readiness of the client, both participants should re-enter the diagnostic phase. The health professional must communicate and interpret all the information gathered about the condition to the client and must determine the expectations, values and beliefs of the client. The client should share appropriate information and

determine the health professional's perspective. Both the client's expectations, values, beliefs and the health professional's perceptions will have an influence on the interpretation of the information and the establishment of a relationship. Only then should the participants progress towards the next phase of decision making and exploration of treatment. This phase may include family members and friends, allied health care professionals, social workers and support groups. The result of this phase should be a 'mutually satisfactory decision for both patient and doctor' (Ballard-Reisch, 1990:97).

In the third phase (treatment decision, implementation and evaluation), information gathering and interpretation play an equally important part (Ballard-Reisch, 1990:100). There will only be compliance to treatment if there is a thorough understanding of the treatment regimen, regard for the medical advice and if the skills for self-management are present (Ballard-Reisch, 1990:100). When clients are assertive, knowledgeable, and understand their rights and their responsibilities, they are ready to make wise, ethical decisions on health care (Thornton, Marinelli & Larson, 1993:193). According to Tones (1986:8), the provision of information should culminate in the practising of decision making, preferably in a simulated setting where implementation can take place in a safe environment. In the evaluation phase, clients should also participate actively by providing feedback on, for example, changes in symptoms and side-effects. Clients should know what to expect from the treatment and what to do if complications arise.

5.6.6 Development model of health communication

The main focus of the development model of Northouse and Northouse is on the health communication taking place within the various relationships in health care settings (Rensburg, 1996:231). The emphasis is on the way in which a series of factors (participants, transactions and contexts) can influence the interactions between the participants in health communication.

An individual engaged in health communication is participating from his or her unique perspective (beliefs and values) in the role of health professional, client or significant other (Rensburg, 1996:231). Each one's perspective will influence his or her choices and interactions with others. For example, a client with values that are inclined towards quality rather than quantity of life will seek interaction with others in the light of this value. The 'others' (apart from the client and health professional) who participate in health communication are family members, friends, co-workers, other individuals and groups that have a significant influence on a client's utilisation of health services and maintenance of health (Rensburg, 1996:232).

Both verbal and non-verbal communication plays an equally important role in the transactions contained in the development model. Both content and relationships inherent in messages are considered significant for successful communication. Within this model, 'health communication is not a static event, but an interactive process that occurs at various times during a person's life. It includes continual feedback, which allows participants to adjust and readjust their communication' (Rensburg, 1996:233).

Health communication in this model can take place in and be influenced by the various health care settings, such as hospitals, consulting rooms, hospices, and by the contexts in which communication takes place, for example, interpersonal, small-group, or mass context (Rensburg, 1996:234).

5.7 Health promotion communication

As discussed in 3.1, there is an interrelationship between health promotion, health information, health education and health communication. Communication is the tool available to health professionals to transmit the necessary messages to the client(s) (see 4.1) and as such it plays a pivotal role in promoting health. To reach the aims of managed health care, well-educated clients, family members, social support groups, communities, etc. have to be informed participants in decision-making regarding health (Kreps & Thornton, 1992:81).

It has become one of the most important goals of modern health care to disseminate relevant and persuasive health information to health care providers and consumers. For health professionals, health information contributes to knowledge of the latest treatment regimes, accurate diagnoses, the recognition of health threats and efficient rendering of health care services. For clients, health information contributes to their handling of health threats (preventative care) and responding to health problems. The communication challenge lies in the provision of relevant health information to people who need it most (Thornton & Kreps, 1993b:127). This can be done by media. 'Media are extensions to our ability to communicate, and the complexities of modern health care demand all of our ingenuity for developing and utilizing powerful health communication media' (Kreps & Thornton, 1992:155).

5.7.1 Health promotion campaigns

Although health promotion comprises a variety of interventions that promote health and prevent disease and disability, specific communication efforts are launched from time to time to reach and influence the health beliefs, attitudes and behaviours of large target audiences. 'Health promotion is an important outcome of the use of strategic communication in health education efforts, where individuals who acquire relevant health information use this information to take charge of their own health and make enlightened health care choices' (Kreps & Thornton, 1992:197). Health campaigns promote the self-management of health and help members of the public to

- recognise serious health risks;
- adopt strategies to avoid the risks;
- gain access to prevention and treatment techniques; and
- implement appropriate strategies to minimise health risks (Kreps & Thornton, 1992:199).

As suggested above, the communication process involved in the important task of providing rationale and direction to individuals for adopting health promoting behaviours is complex and seldom completely controllable. Exposure to relevant health information will not necessarily lead to changed behaviour. To change health behaviour calls for a thorough knowledge of the behaviour that needs to be changed and the communication strategies that would address specific audience needs (Thornton & Kreps, 1993a:205). For example, the messages must

- capture the audience's attention;
- lead to an understanding of the particular health issue; and
- persuade the audience to adopt a new, healthy behaviour.

Successful health campaigns are based on strategic planning regarding programme development, implementation and evaluation (Kreps & Thornton, 1992:167). In addition, knowledge of the target audience's cultural, educational, and linguistic background is needed and must be taken into account when messages for health promotion campaigns are created (Kreps & Thornton, 1992:167; Thornton & Kreps, 1993a:205). In a digital environment, information on an audience's access to hardware, competency with using software, etc. should also be researched before embarking on a digital campaign.

5.7.1.1 Channels

The selection of channels and media for health promotion campaigns will have an effect on the reach of messages and their influence on a specific target audience. Oral, written and mediated channels of communication are employed to accomplish the aims of health promotion. Channels include the following: personal interviews, printed pamphlets, booklets, posters, flyers, public presentations and road shows, telephone hot-lines (toll-free numbers), radio, television, films, magazines, newspapers, online information services, CD-ROMs, interactive computer programs and e-mail hotlines (Kreps & Thornton, 1992:122, 199; Thornton & Kreps, 1993b:128).

Formal health promotion may take place through public presentations on health care issues, health professional/client interactions during consultations, classroom instruction about health care topics, and through mass media programmes designed for the specific purpose of disseminating relevant health information. Informal health education takes place through popular mass media, everyday conversations, popular magazines, television shows, and movies that show health behaviour (Kreps & Thornton, 1992:123).

Because of the popularity of the entertainment media, they have a significant influence on shaping the health beliefs and expectations of the general public. However, current media often provide inaccurate health information (Thornton & Kreps, 1993b:128). In research done by Turow and Coe (1993:130), it was found that meaningful discrepancy exists between television news, entertainment and advertisements and the reality of medical care. However, the possibilities of mass media as powerful tools for health promotion should not be underestimated, provided that the messages are strategically designed, relevant and accurate.

In the USA, videos, film, sound/slide programmes and cassette tapes are common hospital-based audiovisual media. The media are housed in hospital libraries and are often produced by the hospitals themselves. They are used for staff and patient education, reporting between shifts, documenting health care procedures (often for legal purposes), health promotion campaigns and hospital public relations projects (Kreps & Thornton, 1992:148). Although no reports on digital media were found in the literature, general trends would suggest that these will now also have found their way into hospital libraries.

Print media are used for both in-house communication and communication to a wider audience. Through the written word, photographs and graphic designs, newsletters, annual reports, letters,

booklets, bulletin boards, posters, payroll inserts, handbooks, company magazines, exhibits, books, newspapers, magazines, and billboards communication to the public takes place. 'It is critical that these print media be written clearly (at an appropriate level) and engagingly for the audiences for which they are intended' (Kreps & Thornton, 1992:145). Research has found that newspapers and magazines are most often seen as useful sources of general health information. Pamphlets and booklets are seen as useful for recognising and understanding symptoms of health problems, for adopting appropriate strategies for resisting and coping with health risks and for identification of where and how users can obtain health care services. Health care providers mostly get their information from journals, textbooks and abstracting services (Kreps & Thornton, 1992:146).

One of the latest and most promising media in health care is interactive media in which the client is an active participant in the accessing, sending and processing of health information. Interactive media not only include 'reflective media' (such as telephones, closed circuit television and electronic mail), but also 'intelligent media' (such as computers) (Kreps & Thornton, 1992:149).

The telephone has become an important instrument in the dissemination of health information. Telephone hot lines and referral services are important channels for providing support, information, referral and counselling for clients who suffer, for example, from AIDS, poisoning, domestic violence, alcoholism, drug addiction, and psychiatric disorders (Kreps & Thornton, 1992:149–150). Although very handy and most appropriate in illiterate or semi-literate communities, the telephone unfortunately has limitations regarding its ability to hold information. There is a loss of visual, tactile, olfactory, kinesic, proxemic and artifactic information, leading to lost, distorted and limited information. Misconstrued messages or purposeful deception may also occur over the telephone (Kreps & Thornton, 1992:150–151).

Closed circuit television in health care was described in 1975 as 'telemedicine', being the forerunner of telemedicine as we know it today. Today's telemedicine is 'the use of telecommunication technologies to provide medical information and services' (Huston & Huston, 2000:92). It is used for remote diagnosis (e.g. teleradiology and telepathology), consultation, counselling, psychotherapy, and teaching. Its greatest advantage for health promotion is that it can offer health care services that previously were unavailable to people in rural areas (Huston & Huston, 2000:93–95; Kreps & Thornton, 1992:151). However, telemedicine is still in its infancy

with numerous problems yet to be solved, including those of payment, privacy and security (Huston & Huston, 2000:94).

The computer as a communication tool for health promotion receives scant attention in the literature on health communication. Computers as processing tools for health care are however widely acknowledged (Kreps & Thornton, 1992:151–152):

- 'it can process information and respond to different user techniques';
- 'it can be used to rapidly evaluate and analyze incoming off-site information, search distant information banks for solutions to problems and direct user behavior in accordance with precedents established in external health care facilities';
- '[it] can be used to evaluate the likelihood of success of a given health maintenance procedure, analyze the data produced from many complicated lab tests, or search for related research and evidence upon which to base a health care decision, all in a highly time and cost efficient manner'; and
- 'computers have been found to be a handy and efficient means of storing data for future retrieval ... to store and process ... financial data, medical records, personnel information, and inventory of supplies and equipment'.

The term 'medical informatics' is now used to describe the utilisation of computers to enhance health care delivery on the health professional level. Health informatics include (Kreps & Thornton, 1992:153):

- storing and processing of medical records;
- supplying information about health care treatment, referral, and research;
- analysing laboratory tests;
- interpreting diagnostic data;
- tracking physiological monitoring systems;
- conducting tomographic scans and non-invasive imaging procedures in nuclear medicine;
- increasing the sophistication of medical instruments that assist research into epidemiology;
- enhancing decision making in clinical medicine;
- managing administrative functions (accounting, billing, inventory, payroll);
- improving client care (admitting, appointment scheduling, dietary, laboratory, nurse scheduling, pharmacy);

- improving general management control (budgeting, productivity analysis, utilisation review); and

- conducting health information processing functions.

The use of the computer as a communication tool for the dissemination of health care information for health promotion is scarcely mentioned in the literature. In fact, the computer is described as 'impersonal' and 'an unforgiving communication tool', and is therefore deemed unfit as a communication tool. It seems that the possibilities of digital media for health promotion are seen as something for the distant future. It is felt that the computer as an interactive medium in health care will only come into its own 'as computer programmers continue to develop convivial computer systems and as users become more sophisticated' (Kreps & Thornton, 1992:152). Various problems are foreseen, for example, the protection of the individual's privacy, too much or too little access and no means of interpretation (Kreps & Thornton, 1992:152). The extent of communication traffic on the Internet, the behaviour of clients and the readily available systems for information protection have proved the above restrictions and fears unfounded.

In 1992, the potential of computers as mass media communication tools for the dissemination of health information was not overlooked, but inaccessibility was seen as so insurmountable a problem that further research into this particular application was not encouraged. Nevertheless, programs for taking client medical histories, counselling and audience specific education were developed (Kreps & Thornton, 1992:155).

5.7.1.2 Objectives
No health promotion campaign can be effective without a clear definition of the problem to be addressed and realistic objectives based on the problem definition (Brown & Einsiedel, 1990:154). Objectives should be clear, specific, realistic and measurable (Brown & Einsiedel, 1990:156; Kreps & Thornton, 1992:200).

The communication source must have a thorough understanding of the nature of the health issue, must know where the majority of the potential audience is in the persuasion process (4.2.3) and what other factors may influence the success of the campaign (Brown & Einsiedel, 1990:155). These factors will in turn influence the setting of objectives.

5.7.1.3 Audience

Any health campaign should centre on the audience that is most appropriately addressed by communication regarding the problem and the objectives of a campaign. This may be an audience most at risk of contracting an illness or adopting an unhealthy behaviour. Research into and knowledge of the audience will help the communication source to understand

- why an audience segment adopts a specific behaviour or persists in it;
- the extent to which a targeted audience is confronted with competing messages;
- how the education strategies might be supplemented or enhanced by concomitant changes in the macroenvironment (e.g. technology and demographics); and
- how to involve the community and utilise important members of social networks (opinion leaders and change agents) to influence the behaviour adoption of others (Brown & Einsiedel, 1990:157–158).

The information and knowledge gap between the medical research community, specialised practice community, general practice community and health care clients is vast. Definite steps are needed to narrow this gap and guarantee effective health promotion efforts (Kreps, 1993a:149).

5.7.1.4 Behaviour of recipients

The behaviour of recipients plays an important role in the way they experience and act on communication. Research has shown that human beings are continuously searching for stimulation, driven by the pleasure centres of the midbrain. Moderate amounts of arousal are pleasurable and therefore sought. The greater the arousal potential of a stimulus, the more attention a person will give to it. Increasing attention to the stimulus is accompanied by increasing pleasure ... up to a certain point, where after displeasure will set in. This behaviour is also valid for communication and recipients' responses to communication. Through cognitive and affective processes (some controlled and some automatic), recipients select the stimuli. Depending on their cognitive and activation responses to their environment, recipients seek to maintain consistent arousal levels or arousal variety. Sensation seeking plays a major role in stimulus selection. The dimensions of sensation seeking include the following (Donohew, 1990:140–143):

- Thrill and adventure seeking (through physically risky activities which provide unusual situations and novel experiences);
- experience seeking (through a non-conforming lifestyle, travel, music, unconventional friends, etc.);
- disinhibition (through social stimulation, parties, etc.); and

- boredom susceptibility (resulting in great restlessness when things are the same for any period of time).

From the above, an activation theory of information exposure was developed. According to this theory, stimulation rather than cognitive need may motivate exposure and attention to a message. 'Individuals enter information-exposure situations with the expectation of achieving or maintaining an optimal state of activation', albeit at a low level of awareness (Donohew, 1990:145). However, there is no guarantee that recipients will read, watch or listen exclusively to those items that maintain arousal levels.

For the design of effective health promotion campaigns, cognisance must be taken of behavioural theory, to understand why people engage in certain behaviours and do not enact others, and communication theory, to ensure effective message development and channel selection that would reach the target audience (Maibach, 1993:207). Effective health promotion campaigns are based on a thorough understanding of both the health issue and the intended audience. The needs, motivations and resources of the audience should be the starting point in problem definition, setting of objectives, message design and media planning (Brown & Einsiedel, 1990:154).

5.7.1.5 Culture

Culture has a particular influence on how people view the body and its functions. In turn, treatment and diagnosis are determined by these views. For example, in France where emphasis is placed on beautiful, intact bodies, few hysterectomies and Caesareans are undertaken by surgeons (Kreps & Thornton, 1992:166). By contrast, the number of these procedures among South Africa's higher income groups is the highest in the world (Van Os, 1998:63). This proves that diagnosis and treatment are not necessarily based on science but also on the beliefs, values, attitudes, and world views of both health professionals and clients (Kreps & Thornton, 1992:167). 'Disease, health, and illness are culturally defined. Beliefs, values, and attitudes express cultural codes and social circumstances as well as organic conditions' (Kreps & Thornton, 1992:167).

Beliefs can be defined as people's ideas about the truth or falseness of any given matter such as health and health care. Verbally expressed beliefs are called opinions. Values are beliefs that evaluate or judge a matter as good or evil, positive or negative. Attitudes on the other hand are predispositions people have that cause them to react positively or negatively to something (Kreps

& Thornton, 1992:167). Knowledge of a target audience's values and attitudes regarding health, health care and the health care system can have a dramatic effect on the outcome of the interaction among health professionals and between health professionals and clients (Kreps & Thornton, 1992:168, 170).

Stemming from cultural differences are cultural bias, stereotyping, ethnocentrism and proselytising – all of which may constitute barriers to effective health communication (Kreps & Thornton, 1992:171–173) (see also 5.8.12).

To improve intercultural communication, a cultural assessment should be made of a client or audience to determine the degree of affiliation with a cultural group, religion, patterns of decision making and preferred communication styles. In this way problem-specific, culture-related information is obtained on which communication is based.

Where possible, an audience should be addressed in its own language, either by the health professional or an interpreter. If no interpreter is available, the health professional should
- speak slowly and take his or her time with the recipient;
- use simple, but not simplistic, sentence structures;
- not use jargon or other technical terminology;
- ask the client to explain and paraphrase what has been discussed (feedback); and
- include communication with family and friends and a social support group (Kreps & Thornton, 1992:174).

An awareness of the role of culture is a prerequisite for effective health communication, especially in mixed societies (Kreps & Thornton, 1992:178).

5.7.2 Health marketing

As stated above, traditional health promotion focused mainly on individuals (health providers and patients) and small groups. Today, however, health promotion efforts target whole communities, entire populations or segments of society as, for example, in the current HIV/AIDS campaign in South Africa. Traditional methods of communication proved insufficient for the large-scale health promotion and education activities undertaken to reach large audiences (Lefebvre & Flora, 1993:218). This has led to social marketing concepts being used to develop effective communication strategies for health promotion. Social marketing concepts and methods stem from traditional marketing. Its emphasis is on the marketing of ideas, attitudes and lifestyle changes,

that is, non-tangible products (Lefebvre & Flora, 1993:219), as is the case in health promotion. Changes in ideas, attitudes and lifestyles are exactly what is needed to promote health and prevent disease and disability.

In a production and sales orientation to marketing (push marketing), the organisation (source of communication) is the most important participant. In consumer-oriented marketing (pull marketing) the consumer need gives rise to the interaction. In social health marketing, health promotion programmes are planned and developed to satisfy consumer needs, 'reach as broad an audience as is in need of the programme, and thereby enhance the organization's ability to effect population-wide changes in targeted risk behaviors' (Lefebvre & Flora, 1993:221).

Ideally, health communication programmes should be
- designed in response to audience needs;
- implemented to meet those needs;
- effective in satisfying the needs;
- monitored to ensure that they continue to meet the needs; and
- designed to alert the source about new or changing needs in the target group (Lefebvre & Flora, 1993:222).

Health communication in social marketing is based on exchange concepts (price) whereby the consumer is willing to voluntarily exchange money, time, physical and cognitive effort, lifestyle, psychological factors and social contacts for technical expertise, ideas, products and services on offer (Lefebvre & Flora, 1993:222). This places a huge responsibility on the source of communication to ensure that the health information is absorbed or obtained as easily and effortlessly as possible.

Because social marketing is consumer-driven, a careful analysis of the target audience and its segmentation into meaningful sub-groups or priority groups are needed in order to be able to design messages and channels that would effectively reach homogeneous subgroups (Lefebvre & Flora, 1993:223). Through audience analysis, audience members' attitudes, interests and understanding of campaign topics are identified to help campaign planners predict audience reactions to campaign messages (Kreps & Thornton, 1992:200). Market segmentation increases the potential reach and effectiveness of the message and its receptivity by a specific target group. In addition to market analysis, focus groups and qualitative research methods can be used to

further characterise a specific target audience in order to design campaigns that would effect the necessary change in behaviour (Lefebvre & Flora, 1993:224). As in any health communication, the 'messages must be matched to the key cultural attributes of the audience for whom they are intended' (Kreps & Thornton, 1992:200).

A main component of social health marketing is the pre-testing of concepts, message content and design among a target audience. The purpose of pre-testing is to enhance the communication's reach and/or effectiveness, and prevent costly and unsuccessful efforts before they are released (Lefebvre & Flora, 1993:224–225).

Social health marketing to the public requires a variety of channels through which messages are delivered. Channel analysis is needed to determine which channel(s) will reach the most members of a targeted audience (Lefebvre & Flora, 1993:225). Channels include 'electronic and print media, influential community leaders, program volunteers. Any person, organisation, churches, physicians' offices, [clinics] and various nonprofit agencies can all be viewed as a potential channel. Techniques such as personal sales, public events, outdoor advertising, direct mail, and telemarketing also provide methods to communicate with the audience' (Lefebvre & Flora, 1993:225). The accessibility of and contact with a channel(s), as well as the target audience's perception of the authoritativeness of a channel (see also 4.2.4), will influence a source's decision to use a particular channel. Not all types of messages lend themselves to successful delivery over all channels and, at certain stages in the change-behaviour process, some channels may be more successful than others. For example, information and persuasive messages can be effectively transmitted by mass media channels but, when a person has to decide on whether or not to adopt a suggested behaviour (e.g. practise safer sex, quit smoking or lower salt intake), an interpersonal network of family, friends or a support group often has greater influence. Intermediaries or empowered opinion leaders reinforce mass communicated messages and assist individuals to progress from passive absorbers of messages to actually adopting changes. It therefore makes sense to target influential people (opinion leaders) who are perceived by the social network as homophilous, authoritative and credible sources of information so that they can reinforce a community's adoption of new attitudes and behaviour (Lefebvre & Flora, 1993:225–226). Interpersonal and non-mediated channels are usually more effective for delivering complex, emotionally volatile and persuasive messages and in inducing complex behavioural changes. Such encounters may take place during public meetings, workshops, phone calls, staged events, and demonstrations (Brown & Einsiedel, 1990:160).

Channels for social health marketing should be evaluated and selected according to the following criteria (Lefebvre & Flora, 1993:226):

- ability to transmit fairly complex messages;
- type of medium — visual, auditory, print, electronic;
- cost;
- reach, frequency, and continuity;
- number of intermediaries they require;
- potential for overuse and oversaturation;
- capability for multiplicative effects (i.e. ability to build on one another);
- degree of perceived authority and credibility (rate of influence); and
- accessibility to the targeted audience.

Usually, health promotion campaigns utilise a variety of channels and in different combination so that the capabilities of individual channels are strengthened and the limitations minimised (Kreps & Thornton, 1992:203). According to Brown and Einsiedel (1990:159), each channel has advantages and disadvantages in terms of cost, the ability to reach a specific audience and the extent of control a source has over the message content and the media values (colour, sight and sound). In Table 1, a summary is given of the formats available through the various channels.

Table 1 Media channels and their formats (adapted from Brown & Einsiedel, 1990:159)	
Channels	**Format**
Television	Public service announcements (PSAs)
	Paid advertisements
	News stories
	Features on issue, with health professional
	Themes in entertainment programming
	Educational programmes
Radio	PSAs
	Paid advertisement
	News and feature stories
	Themes in songs
Magazines	PSAs
	Paid advertisements
	News and feature stories
Newspaper	PSAs
	Paid advertisements
	News and feature stories

Table 1 (continued)

Direct mail	Brochures, pamphlets, flyers, posters, etc.
Telephone	Hotlines for counselling
	Referral
Electronic media	PSAs
	Paid advertisements
	News and feature stories
	Themes in entertainment programs
	Themes in songs
	Educational programs
	Chatrooms for counselling and support
	Referrals

The success of health communication rests on whether an audience receives, listens, understands, remembers, and responds to campaign materials. This depends on five aspects of the message presentation, namely content appeal, style, frequency, timing and accessibility. Messages must be presented frequently and in the media that a targeted audience is likely to attend to. In South Africa, by far the most popular medium is still the radio (Independent Newspapers/Kaiser Family Foundation survey, 1999). More success is obtained if the content of messages has been designed to fit a specific audience, channel, source, topic, and intended effect (i.e. the health behaviours to be influenced). If in addition a message is believed to come from a trustworthy source, satisfies a need for knowledge or assists in solving a problem that affects the lives of the target audience, the chance of success is enhanced. The format, readability, personal relevance and the presence of controversial elements in material are important because they influence comprehension, recall and adherence to the arguments of the central message. Even under these circumstances, changes in the target audience's beliefs, attitudes and behaviours cannot be guaranteed (Brown & Einsiedel, 1990:161–162; Kreps & Thornton, 1992:199–200).

The marketing mix (product, price, place, promotion) of health may present a problem because the product is usually intangible — how does one buy a 'healthier life' and how much should one pay for it? The starting point is to make these intangibles tangible in a way that would appeal to the target audience (Lefebvre & Flora, 1993:226–227), for example by awarding points for reaching goals. Many tangible products do exist, however, and should be marketed. For example, self-help smoking cessation programmes, blood cholesterol screenings, disease management programmes or corporate fitness challenges. Publications that support these programmes are also products and quality, styling, branding and packaging must receive the necessary attention. Product depth,

width and diversity also need attention (Kreps & Thornton, 1992:200; Lefebvre & Flora, 1993:226–228).

Price can be defined as the economic, social, behavioural, psychological, temporal, structural, geographic and physical reasons for exchanging or not exchanging something for the product. A distinguishing feature of the social marketing concept is its use of incentives to encourage participation of the target audience. Incentives can be real or perceived, tangible or intangible, financial or social, etc. Incentives that occur shortly after the behaviour is practised may reinforce the behaviour and motivate the individual. 'The challenge of health marketing is in both reducing barriers/costs of participation and creating incentives that will further engage people in health and behavior change' (Lefebvre & Flora, 1993:228). Examples of incentives are competitions and awarding points that accumulate to a prize.

Distribution channels or place considerations are important elements of the marketing mix. They include the:

- level and quality of service/coverage to be supplied;
- the number and location of distribution points to be managed;
- use and motivation of intermediaries in product delivery;
- availability of response channels (e.g. tear-off coupons on a promotional flyer); and
- place features (Lefebvre & Flora, 1993:228).

The promotion element of the marketing mix is 'more than awareness-development or public relations. Used properly, promotion can be a major tool to make health promotion products more acceptable to the public and enhance their utilization by the consumer' (Lefebvre & Flora, 1993:228–229). A promotion strategy should take into account the product, price, channels of distribution and the target audience. The target audience and the objectives should be clearly demarcated; the optimal reach and frequency should be determined. Decisions have to be made on advertising, publicity, personal contact and the creation of an environment that would facilitate the desired cognitive and/or emotional effect on the target group (Lefebvre & Flora, 1993:228).

All health promotion programmes should be evaluated. An integrative control system must track the ongoing activities, programme delivery and programme utilisation of a health promotion campaign, and participant information (Lefebvre & Flora, 1993:229). The type of measurement will

depend on relevance to the campaign, the cost and whether sequential information is needed. Possible approaches include

- advertising, in which random samples of the target audience are questioned on awareness, recall and recognition, and knowledge;
- monitoring, which tracks information requests and programme enrolments as a result of the media presentation; and
- experimental methods that compare groups exposed to the campaign with control groups (Brown & Einsiedel, 1990:164).

To determine the success of the campaign, it is also important to ask what materials were prepared, if they reached their target audiences, if they were understood and used as intended, if the channels presented the material as planned, and which resources were expended. It should also be determined if other factors occurring at the same time in an audience's environment might have affected the campaign. Where communities are involved, community participation should be determined regarding the number of participants, the stages when participation took place, the individuals' perceptions of the value of the programme to the community as a whole and to them personally, changed community norms and the utilisation of existing community organisations and structures during various phases of the programme (Brown & Einsiedel, 1990:165–166).

5.8 Barriers to health communication

The communication of accurate and timely health information is crucial to effective health care (Ballard-Reisch, 1990:91). Health care consumers use communication to make their health care needs known and to gather relevant health information to direct their own health care. Health professionals use communication to discover the health care needs of their clients and for interaction with other providers of health care. However 'the communication process by which health information is disseminated is ... complex' (Kreps & Thornton, 1992:197). Research has indicated that often communication in health care is 'ineffective, leading to problems such as miscommunication, misinformation, dehumanization, insensitive interactions, dissatisfaction, and lack of cooperation between interdependent health care providers and consumers' (Thornton & Kreps, 1993b:1). Whereas effective communication can promote high quality health care, ineffective communication can have a negative influence on decision making, the quality of care and compliance to treatment.

Research has shown that the communication skills of health professionals and clients determine to a large extent the effectiveness of health care. Effective communication usually leads to

- patient satisfaction;
- compliance with treatment regimes; and
- enhanced recuperative abilities.

On the other hand, ineffective communication may lead to

- dissatisfaction with health care services;
- alienation between health professionals and clients; and
- excessive competition between health professionals (Kreps, 1993c:51).

Various factors or barriers could impact negatively on communication and the transfer of meaning between health professionals and clients. These barriers could originate in illness itself, from the traditional roles of doctor and patient, from the personal communication style of the participants or from the conventions within health care settings. According to Thornton and Kreps (1993b:33), the 'factors that complicate the process of sharing meanings are nearly all present in doctor-patient encounters. And most are found here in their most extreme and destructive form'.

Apart from the barriers discussed below, it must be acknowledged that the personal background (demographic, socio-economic, educational, religion, cultural, etc.) of each participant contributes to the communication within a usually emotion-laden interaction between health professionals and clients (Thornton & Kreps, 1993b:166, 170).

5.8.1 Ego involvement

People tend to shy away from discussing topics that relate to physical disability and inadequacy, illness and disease because they cause anxiety. Less successful communication results from topics that involve the ego, that is, when one or both parties are afraid of a topic. The meaning of messages may be obscured when participants show 'flee' or 'attack' behaviour or when they refuse to listen and talk (Barnlund, 1993:33). Hospital patients often feel a loss of control as well as anxiety about the strangeness of the setting (see also 5.4.2). Their egos suffer and ineffective communication is the result (Ruben, 1990:58). Hospitals and other health care settings would do well to orientate patients beforehand or upon admission into the unfamiliar environment by way of innovative communication media.

5.8.2 Differences in knowledge

The two main problems facing health care delivery today are:

- providing clients with enough information regarding their health, condition or treatment so that they are sufficiently informed; and

- the high level of non-compliance to medication prescription on the part of the patient.

Ballard-Reisch (1990:101) is of the opinion that both these problems result from shortcomings in current patterns of communication and decision making between health professionals and clients. However, it is here that the vast authority and power is highlighted of one participant (the health professional) in comparison with the ignorance and impotence of the other (the client).

A modern axiom postulates that information is power. The health care professional is usually the primary supplier of information regarding diagnosis, treatment options and alternatives, costs and benefits, implementation and evaluation of treatment, and therefore he or she has a great deal of expert power. Inherently and of necessity there exists an asymmetrical power distribution in the health professional–client relationship; unequal knowledge leads to inequality in human relationships, leading to incomplete and distorted communication between the participants (Ballard-Reisch, 1990:99; Barnlund, 1993b:34).

Failing to understand is mostly a result of the knowledge discrepancy between health professionals and clients. Health professionals participate in the interaction as experts, while clients are usually anxious about their health and looking for assistance. This takes place in an unfamiliar and often intimidating environment in which the client is clearly lacking medical knowledge and expertise. The power of knowledge prohibits clients from asking questions when they do not understand. The situation is exacerbated by the traditional view of doctor–patient relationships (Ballard-Reisch, 1990:100; Ruben, 1990:52).

Client satisfaction and compliance depend on the extent to which client expectations for information are met. Clients want to be informed about their conditions, the treatment alternatives and what they can expect from treatment. If they receive too little information, they are more likely to refuse treatment. Client participation is acknowledged as being essential in the health care delivery process (Ballard-Reisch, 1990:94, 99). In managed health care it is expected of clients to become actively involved in monitoring their own treatment and making treatment decisions together with their health care providers. They should seek the latest information about their

conditions and, if the provider will not or cannot give the necessary information, clients are encouraged to obtain the information from other sources (Barnlund, 1993:33).

Health care services have become much more complex as health knowledge has increased. Increasing competition, new medical technology and procedures, increased public scrutiny, better informed clients, new diseases, the economy of costs and managed health care have a dramatic effect on health professionals' need for and organisation of information (Ruben, 1990:61). The professionals experience many frustrations in obtaining and organising their information. These include

- lack of access to up-to-date information resources;
- ignorance of the availability of relevant information;
- lack of time for inquiry; and
- poor organisation of available information.

Relief can come in the form of up-to-date, personalised information, relevant to the health professional's information needs, that is rapidly available in all health care settings, namely, the consulting room, clinic, hospital ward, library, and at home.

5.8.3 Social status

It is generally believed that the social status of a health professional is superior to that of most other people. Research has shown that communication becomes difficult when the social distance between the participants is significant. Therefore, the greater the disparity in education, income and social standing, the less health professionals and clients are capable of hearing the message as it was intended. 'When status distinctions are emphasized, people avoid contact with each other, withhold information, and distort the meanings intended by the words of others' (Barnlund, 1993:34).

A positive outcome of this fact has been the formation of numerous support groups within communities. As people gradually accepted more responsibility for their own health and health care, they became more dependent on their communities for health information and emotional and psychological support (Kreps, 1993c:54), thus filling a gap left by health professionals.

Because those that seek health care often suffer from stigma (when a person's public image is reduced from a 'normal' person to a 'tainted' one), their social identity and status is negatively affected (Thornton & Kreps, 1993:169) and as a seeker of help their role is an inferior one. Once

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again, support groups, in which there is symmetry in the status of participants (such as those for HIV/AIDS sufferers and battered wives), play an important role in the provision of assistance, information and support.

5.8.4 Differences in communicative purposes

Because of the differences in position and authority or power, differences in points of view arise. It can be said that the health professional and the client look at the same data, condition, symptoms, treatment, etc. but each from his/her own, unique viewpoint. The meaning of messages are often embedded in the perspective from which they are spoken. Therefore, meanings do not coincide unless both participants are aware of this fact and try to minimise the discrepant motives through discussion (Barnlund, 1993:34).

Furthermore, the client's physical, emotional or psychological needs at that particular time will also interfere with his or her ability to assimilate, process and respond to information from an objective point of view (Williams, 1997:27). In the health professional–client interaction, the responsibility rests with the professional to determine the goals and expectations of the client and to educate him or her about the condition, treatment, expected outcome, etc. (Ballard-Reisch, 1990:101).

5.8.5 Emotional distance

In health care, there is usually an urgent need for rapport between the participants. Yet, it is virtually impossible to bridge the emotional distance. Only when doctors and patients 'meet as human beings with respect and mutual concern', can effective communication take place (Barnlund, 1993:34). When there is emotional distance, deep sharing of meaning is impossible. Where there is a lack of rapport, intimacy, empathy, closeness, sensitivity, respect and dissatisfaction with health care, relational dominance and dehumanisation follow (Kreps, 1993c:53).

5.8.6 One-way communication

It is an accepted fact that one person cannot deposit meaning in the mind of another. Sources and recipients participate mutually in the communication process. Recipients interpret messages in the light of their own viewpoints, needs and expectations. To reach consensus of meaning, each participant must provide clues to the intended and/or understood meaning through symbols (words, actions), must attend to the clues and must clarify, elaborate and discuss the meaning

from the viewpoint of the other. The extent to which both participants take equal responsibility for achieving common meanings determines the success of the communication (Barnlund, 1993:35).

Despite the above knowledge, most communication in health care is still one-way. The result is that clients feel powerless to clarify obscure and confusing messages. Instructions are misinterpreted and errors are compounded, leading to deficient relationships. 'Nothing is more demoralizing than to be placed in critical situations and then be prevented from clarifying obscure and confusing messages' (Barnlund, 1993b:35).

Inequality in power and status may prevent two-way communication because clients feel uncomfortable, intimidated or too embarrassed to ask information from the health professional, even when they do not understand. For the same reason, clients could withhold relevant information about their health. In one-way communication, clients are sometimes not given the opportunity to impart information (Kreps, 1993b:44; Thompson, 1984:153).

Stress and emotional issues may contribute to clients' feelings of discomfort and their unwillingness or inability to ask questions or respond appropriately to messages. Thompson (1990:41) recommends that clients are encouraged to discuss emotional issues first before physical problems are addressed and vice versa where necessary.

In research reported by Ruben (1990:61–62), it was found that patient satisfaction and compliance improved after an initial interaction between health professionals and clients in which clients

- reviewed their medical records;
- were coached in formulating relevant questions; and
- were assisted in rehearsing techniques for negotiating medical decisions with their health providers.

Whereas inadequate explanation leads to dissatisfaction with health care (Thompson, 1984:152), Ruben (1990:62) reports that active involvement and simulated interaction, combined with the presentation of patient-specific information, enhance clients' communication competencies and the quality and value of interactions with health professionals.

The danger exists, however, that clients be overloaded with information. Clients select only the number of messages that they have cognitive space for, or that they perceive to be more important, and use the selected messages for making sense of a current situation (Thornton &

Kreps, 1993b:21–22). Different clients may therefore have different information needs. The health professional should carefully assess the relevance of the information provided to the client.

5.8.7 Verbal manipulation

Many participants in communication have hidden agendas in which they have predetermined the decisions, actions, etc. of the other participant. The communication then becomes a method of manipulation. This is possible where the one participant feels superior to and disrespectful towards the other, disregarding the other person's right to determine his or her own destiny.

In modern health care, and especially in managed health care, clients should be equally responsible for their own health and they should be empowered to make decisions regarding their own health. Their decisions should carry equal weight to those of the health professional (Barnlund, 1993:35).

5.8.8 Ambiguity of language

Language is essentially a 'sign system that enables a message to signify meaning independently of the material world' (Jansen & Steinberg, 1991:63). Because the meaning denoted by every word is not necessarily in agreement with the meaning other people give to the same word, language itself may cause misunderstanding. For example, the word 'illness' may have numerous meanings and 'heart attack' may refer to a number of problems. The meanings of the words themselves are unclear and much more so the meanings of messages made up of these words. The difficulty in finding words to describe the exact symptoms of an illness is a good example. Only through repeated and mutual checking and discussion of the possible interpretations can client and health professional come to a shared meaning (Barnlund, 1993:36).

Miscommunication and misinformation in health care could lead to
- inaccurate interpersonal interpretations;
- ineffective and manipulative message strategies;
- failures to seek and utilise interpersonal feedback; and
- misinterpretation of the health care instructions and therefore non-compliance (Kreps, 1990:198; Kreps, 1993c:53).

Miscommunication may also be the result of the idiosyncratic ways in which people process information, especially the complex messages of health care problems, diagnoses and treatments (Kreps & Thornton, 1992:7).

5.8.9 Role of jargon

Within the communication of a specific group or profession, jargon serves a purpose. The main functions of jargon are to:

- increase the efficiency of communication within the group by the combination of complex concepts and terms into a single word or phrase that can be recognised instantaneously by other group members, for example ob-gyn, MRI, and detox;
- indicate group membership by identifying individuals with access to specialised vocabulary and information;
- set apart users from non-users of the jargon — it may be used to impress or intimidate the non-users by making them feel confused and foolish, or to establish power and control over non-users by indicating superior knowledge of health care;
- insulate users of jargon from non-users, for example, to communicate confidential matters, but also to exclude some people from the information;
- cultivate rapport among members; and
- provide a sense of common identity (Kreps & Thornton, 1992:29–31).

However, when used in communication not intended for the group, it obscures and mystifies messages and confuses, stupefies, frightens and alienates clients, undermining the purpose of the communication (Barnlund, 1993:36; Kreps & Thornton, 1992:31).

5.8.10 Time constraints

When a client seeks health care, he or she is often emotionally upset, which in itself presents a barrier to successful communication (see 5.8.5). It takes time to listen to such a client, to explain frightening facts, to dissipate fears, to prepare for a crisis, to assimilate meaning, etc. Unfortunately, most health professionals lack the time. The urge to hurry and to utter words rapidly are detrimental to meaningful communication (Barnlund, 1993:37).

When health decisions have to be made, the health professional may already have entered the phases of treatment decision, implementation and evaluation when the patient has just entered the diagnostic phase. However, to take the time, patience and effort needed to accompany the client

through the various phases will lead to more clarity, less conflict, better communication and health professional–client relationships, and compliance to treatment (Ballard-Reisch, 1990:96).

5.8.11 Mystification of medicine

Traditionally, the doctor has been seen as a mystical and godlike figure (Thompson, 1984:153). Mystification has been seen as a way of protecting the client from anxiety caused by the limitations of medicine and surgery, known only to the doctor. The health professional also suffers from anxiety, especially regarding the seriousness of the case, the limitations of medical knowledge and skills, possible errors and the choice between alternative treatments (Barnlund, 1993:34).

When clients depend on the mysticism of health care they may have unrealistic expectations of the outcomes. They may rely completely on the health professional without realising their own role and responsibility in the treatment of their illness (Kreps & Thornton, 1993b:170). The result is that communication is distorted and health care compromised.

5.8.12 Cultural differences

'No illness lacks its semantic dimension', says Barnlund (1993:33). Every health professional–client interaction is essentially an intercultural relationship. Through intercultural communication, two or more distinct cultures can be bridged. Each culture is characterised by its own symbols (language), meanings, conventions, rule structures, habits, communication patterns, social realities, etc. (Ruben, 1990:57). In addition, the health beliefs, attitudes and values of the specific culture influence health care. Even the way people think about themselves can change their blood pressure, oxygen needs and blood chemistry and no two groups of people respond to illness in exactly the same way (Barnlund, 1993:32, 40). The influence of a client's ethnic background, religion, and/or lifestyle upon his or her health care decisions must be respected. Cultural bias, prejudice, misunderstanding, stereotyping, ethnocentrism and proselytising are some of the dangers to be avoided (Kreps & Thornton, 1992:171–173).

Where interventions ensure that the participants from both cultures understand and relate effectively with one another, there is improvement in

- competence and knowledge;
- information transfer competencies;
- relationship development;
- maintenance competencies; and

- compliance gaining competencies (Ruben, 1990:60).

Information transfer competence is enhanced because clients' understanding and familiarity with terminology, perspective and concepts of the health professional's culture are improved, thus leading to better comprehension, questioning and often rapport (Ruben, 1990:61).

Although not exclusively caused by culture, there is a significant information and knowledge gap between the medical research community and health care clients (Kreps, 1990:189), especially in the disadvantaged communities. In reality, the information-poor audience is often the one most in need of health care because of a high incidence of and mortality from disease, delays in seeking health care or seeking inappropriate health care (Freimuth, 1990:173, 183). Unfortunately the research on the knowledge gap between disadvantaged adults and health professionals reported by Freimuth (1990:173) has shown that mass-media efforts to bridge the gap often fail, mainly because of the characteristics of the target audience (e.g. poor reading and communication skills), the message (simple and limited, e.g. 'smoking is harmful to your health', or complex and opposing messages) or the social system (e.g. giving only the highly literate ready access to computers) (Freimuth, 1990:176; Kreps & Thornton, 1992:147). When the information is complex or of a technical nature, it becomes difficult to communicate the message across differences in language use and cultural systems. The way in which health complaints are presented and health information is utilised is influenced (Kreps & Thornton, 1992:121, 125).

Directly or indirectly, cultural differences lead to the fact that the persons who have the most authoritative information are the least accessible to the disadvantaged groups and they often have to depend on less authoritative but more approachable interpersonal sources.

5.8.13 Health professional–client relationships

In research, it was found that the relationship between health professionals and their clients are of critical importance for high quality health care outcomes. Where the communication relationship is lacking or insufficient, low levels of compliance, low quality of health care, non-acceptance of solutions, client dissatisfaction and unrealistic expectations follow. But when a client is an active participant, the result is increased levels of acceptance, satisfaction and commitment (Ballard-Reisch, 1990:91–93; Becker, 1974:87; Kreps, 1993c:53).

Inadequate or inappropriate instructions may be the result of a deficient relationship. Information about the level of client understanding and the client's own appraisal of the outcomes are not known when the client takes a passive role (Ballard-Reisch, 1990:93). Patient satisfaction with the visit, the health professional, the health care facility, etc. leads to better compliance (Becker, 1974:87). However, in cases where the health professional is formal, rejecting, controlling, disagrees completely with the client or does not give adequate feedback, the result could be similar to when the client is passive. It was found, for example, that a mother's compliance with a regimen prescribed for her child is better when she is satisfied with the initial contact, perceives the health professional as friendly and feels that the professional has understood the compliant (Thompson 1984:152). Critical factors for compliance were the extent to which a mother's expectations from the medical visit were met, warmth in the health professional–client relationship, and an explanation of the diagnosis and cause of the child's illness. Thompson (1984:152) also lists lack of friendliness, lack of communication with the client and the client's family, indifference of the health professional about patient concerns and unfulfilled expectations as barriers to communication. Sharing control with clients, feedback, unambiguous information and demonstrating warmth and concern may help to overcome problems of cooperation and non-compliance (Thompson, 1990:39).

The patient usually has some expectations of the health professional, often based on culture (Becker, 1974:87). Stereotyping and unrealistic expectations may hamper the health professional–client relationship. Health professionals are often seen as heroes, a situation that is made worse by unrealistic portrayals of health professionals in the popular media. On the other hand, health professionals often label educated and informed clients who ask intelligent questions as 'difficult' (Kreps & Thornton, 1992:8).

Double messages given to clients in health care are detrimental to the relationship. For example, the dentist giving an injection might say that it would not hurt when in fact it does. The dentist's statement contradicts the physical sensation; the communication is contradictory and the relationship is put at risk (Thornton & Kreps, 1993b:44).

5.8.14 Lack of patient continuity

Research has found that compliance to treatment is better when the patient is seen by the same health professional every time (Becker, 1974:88). This principle is strongly supported by managed health care, because so-called 'doctor hopping' leads to overservicing. However, according to

Ballard-Reisch (1990:99), whenever appropriate, clients should consult other health professionals for a second opinion or to get the most appropriate treatment from the most appropriate service provider at the most appropriate facility.

5.8.15 Lack of communication skills

From a health professional's viewpoint, numerous communication skills are needed in a health care situation, but limited training in health communication skills are available to health professionals during their years of study (Kreps, 1993b:44). Although many health professionals take the time and effort to develop their communication skills, the changing health care environment keeps adding to the list of needed skills. The following list gives some idea of the extent of communication engaged in on a daily basis by a health professional:

- Providing information;
- giving emotional support;
- instructing or teaching the client;
- relieving anxiety, stress and grief;
- assisting the clients to express their needs, concerns and desires;
- giving reassurance;
- controlling behaviour (i.e. aggressive, unsocial);
- dealing with the client's embarrassment; and
- imparting bad news (Williams, 1997: 26–27).

Language proficiency is a cornerstone of communication in all of the above cases. 'All who are involved in the treatment process will base every question, every inference, every recommendation upon meanings assigned to their impressions through the symbols they impose on them' (Barnlund, 1993:33). The lack of language proficiency or language differences between communicators can therefore present a serious problem. Good listening skills are as important to discover the personal and cultural beliefs, attitudes, etc. of the client and to understand the client's problem.

The traditional communication tools that require reading skills are less likely to be effective among the disadvantaged group of infrequent readers (Freimuth, 1990:182). Traditional media may be supplemented or replaced by other media to reach specific target audiences.

5.9 Evaluation

Previous research concentrated on the only health promotional communication known during that time, namely doctor–patient communication. With changes in health care and health care delivery, additional, new relationships have been established in which communication plays as important a role. In these new relationships, the communication needs of the client take an important position. The main reason for this is the shift towards shared decision making and the partnership approach to health care. Although this shift occurred, many of the problems and challenges of the outdated doctor–patient relationship also manifest in the new.

From this literature study, it is clear that the following aspects should receive careful attention in whatever media is utilised for health communication:

- Shared decision making through information gathering and supply, and learning;
- individual, group, organisational and mass communication;
- empathy, control, self-efficacy, trust, self-disclosure and confirmation issues;
- verbal and non-verbal communication;
- differences in beliefs, attitudes, perceptions and opinions that impact on communication;
- demographic and socio-psychographic variables that would influence communication;
- communication cues that prompt health care action;
- feedback;
- communication as a process;
- message design based on objectives and intended audience;
- channel selection;
- marketing of health;
- control and evaluation; and
- barriers to health communication.

It is clear that health communication in general is fraught with problems and barriers, which could have a detrimental effect on the health of individuals, groups and populations. It seems that improvements, particularly regarding the following, would contribute towards successful communication for health promotion:

- Supplying information to relieve confusion, alleviate uncertainty and tension about (unfamiliar) health care settings, treatment and the health care system;
- providing information to facilitate decision making;

- placing the locus of control correctly in interactions between health professionals and clients, and clients and the health care system, and in clients' responsibility for their own health, treatment, well-being and management of illness;
- creating awareness of health issues;
- changing attitudes and behaviour;
- giving more frequent messages;
- providing a reliable and immediate feedback mechanism;
- providing the correct quantity of information at the appropriate level and at the right time;
- mechanisms to improve self-efficacy;
- trust, created by positive and ongoing reactions;
- explaining jargon and demystifying medicine;
- mending deficient interpersonal relationships between health professionals and clients;
- turning incorrect perception, opinions and beliefs;
- increasing compliance to treatment;
- providing an opportunity to re-visit information during the various phases;
- supplying information that would help clients to recognise health risks, and adopt strategies to avoid and /or minimise risk;
- increasing the reach of health messages;
- improving the accuracy and relevance of information;
- reaching remote areas;
- collecting intelligence about the target audience, e.g. geographical, demographical and psychographical data;
- personalising information;
- doing market segmentation;
- closing the knowledge gap between health professionals and clients;
- supplying a variety of stimuli to elicit response;
- making provision for cultural and language differences;
- doing pre-testing of messages;
- containing the cost of communication;
- invoking all (or most of) the senses;
- carrying authority and credibility;
- having an appealing appearance and easy access;
- being able to evaluate health promotion programmes;

- removing ego involvement;
- removing the stigma associated with ill health;
- establishing a 'safe' community where there is symmetry of status;
- clarifying communicative purposes and ambiguity of language;
- removing verbal manipulation;
- closing emotional distances;
- facilitating two-way communication;
- creating more time for interaction between health professionals and clients;
- helping patient continuity; and
- supplementing the communication skills lacking in interpersonal communication.

This list is long but it represents areas of health communication where there is room for improvement, as identified through the literature study. At first glance, it seems that nothing can replace the traditional communication between health professional and client and it would be impudent to suggest that digital media can replace all communication or can improve on all of the matters listed. However, traditional communication can be expanded and enhanced by new media and some aspects can be treated differently and still contribute towards health promotion.

In the next chapter, the possible advantages and disadvantages of digital media to help overcome the obstacles to successful health communication are discussed.

Chapter 6 Advantages and disadvantages of digital media as communication tools for health promotion in managed health care

6.1 Introduction

From Chapter 3 it is clear that health promotion has become a necessary component of health care in general and of the WHO's aim of health for all people and, specifically, of managed health care. However, to achieve health promotion, health communication has particular requirements in order to be successful, as seen in Chapter 5. From Chapter 5 it is also clear that health care communication is far from perfect. Many barriers and obstacles stand in the way of successful health promotion. In this chapter, the advantages and disadvantages of digital media towards successful health communication are discussed.

Some of the advantages and disadvantages are inherent to the characteristics of digital media themselves while some originate from the particular nature of communication and health communication.

6.2 Advantages of digital media for health promotion

It has been found that digital media (especially the on-line media) are used in the first instance as communication tools (see 2.3). The fact that clients are becoming acquainted with utilising these media for the purpose of communication opens the door for increased and more focused health communication and promotion.

It must also be remembered that all analogue information can be converted to digital formats. No existing recorded information will be lost if health promotion should rely on digital means for communicating recorded information. As a consequence, the vast body of health information already in existence can be made available through digital media.

6.2.1 Advantages inherent in the nature of digital media

South Africa's relatively low health care budget, coupled with the fact that less than half of all formally employed people in this country have some form of health insurance (Pienaar, 1999:22), calls for cost and time-effective ways of promoting health. Low origination, distribution and storage costs, as well as easy updating of information, are lucrative characteristics for the local situation.

Durability, portability and multi-user possibility further enhance the cost effectiveness of digital media.

6.2.1.1 Increased user control

As was seen in Chapter 4 (4.3.7), control enhances a person's ability not only to follow a treatment regime, but also to experience a sense of success, which leads to an even greater effort to sustain health. The digital medium gives the user control over decisions, and facilitates storage, sorting, merging, retrieval and repackaging of information, thus making it possible for the end-user to manage – and control – the information.

Although both push and pull strategies may be implemented in health communication, the end-user will have primary control over the application of digital information, deciding which can be discarded and which will be retained. Control of the information also means that the end-user can determine the level of information, the quantity, format (e.g. video or text), language, culture-specific information, etc.

As end-users become more familiar with computer technology, retrieval of information will improve. A main contribution towards this end has been made by the wide acceptance of the Windows interface. Touch screen technology has even become a familiar interface in some semi-literate communities in South Africa (*Technobrief*, 1998).

It is also thought that the new generation will be experienced computer users. Many parents see that their children have no fear of technology and the Internet. This fact augurs well for health promotion, and health professionals should build digital communication strategies around the younger generation so that health promotion can 'grow' with the children.

6.2.1.2 Multimedia

Multimedia facilitates the dynamic transfer of information and knowledge, and understanding, because various senses are involved in the decoding of messages. Health messages can be communicated in a lively, interesting way without relying solely on the ability of the end-user to read. The advantage of multimedia towards health promotion for illiterates and semi-literates should not be underestimated.

Where reading is not possible, voice, graphics, video and photographs could carry the message. In multilingual societies, multimedia and multi-language voice-overs can at least alleviate some of the problems of verbal communication, especially where the health professional is not fully conversant with the home language of the client.

Animation and video are especially useful where processes need to be explained. For example, the use of the various asthma inhalers can be shown clearly, either step-by-step with animation or in one continuous flow with video. DVD, especially, facilitates various culture and language group choices.

6.2.1.3 Interactivity

Interactivity enhances learning and retention of messages through participative learning.

In health care, role modelling is one of a number of extremely appropriate methods to effect behavioural change. Interactivity via digital media can supply a safe and secure environment in which a client can test various behaviours and experience the results, without any harm to him-/herself. The client is empowered to make the correct health decisions, leading to greater control and better outcomes (see 5.3.1).

Today, digital interactivity goes much further than that between a screen and an end-user. For example, real-time facilities and video conferencing enable a client to interact directly with a health professional over the Internet.

Digital medical monitoring systems can detect and respond electronically to data received (Anderson, 1997:85). For example, a patient's pulse can be monitored and a remote health professional can give immediate advice. Programmes are available where patients with Internet access can link directly with a group practice for regular monitoring of blood pressure, pulse, insulin, etc. (HeartCare: Tailoring WWW information for patients recovering from coronary artery bypass graft surgery, 1999; GeorgiaTech Research News, 1996). These systems encourage health consumers to take more responsibility for their own health care, serving as a means of confirming the belief in the client as a person capable of taking this responsibility.

It can be expected that once virtual reality becomes generally available it will greatly increase the application of simulated health care scenarios in the treatment and education of health clients.

Virtual reality can have particular application for the change of negative behaviour such as substance abuse, aggression and physical abuse, where different outcomes can be experienced following different behaviour patterns.

As explained in 2.2 above, DVDs can help individual patients with their specific problems because the user can focus on a precise problem from various angles, at a specific level of information and in various languages.

6.2.1.4 Hypertext

In diverse societies, hypertext has particular advantages, mainly because the user can retrieve specific sections or levels of information. South Africa, with its unique mixture of third and first-world communities, should exploit this attribute of digital media for the benefit of promoting health among its many different peoples.

A number of projects are already underway. For example, the CSIR has installed a version of InTouch Africa software at Skukuza rest camp in the Kruger National Park. The software was designed for South African conditions. It takes into account the bandwidth restrictions and it interfaces via touch screen. Although the information provided deals with wildlife, vegetation, arts and crafts, it would be an ideal opportunity to promote health in the Park, especially regarding malaria prophylaxis (*Technobrief*, 1999b:7).

In another project, the community of Manguzi in KwaZulu Natal has been supplied with five computers on a Local Area Network (LAN). Once again the system is based on the InTouch Africa technology. Presently the content will incorporate information needed by small, micro and medium enterprises (SMMEs), tourist information and distance education (*Technobrief*, 1998:6). Again, no health promotion is being done via the system, but the infrastructure has been provided and health care organisations should take the opportunity to promote health to the advantage of the community.

The government of South Africa is committed to increasing the accessability to information through community centres and telecentres (Mason, 1998).

In the newly signed agreement between the CSIR and the Canadian International Development Research Centre (IDRC) it can only be hoped that the important area of health promotion will receive sufficient attention (*Technobrief*, 1999a:2).

6.2.1.5 Immediacy

The immediacy of information on health can be of critical importance. At remote clinics, correct, authoritative communication could save a life. Although dial-up systems are unreliable and slow, dedicated ISDN lines can be used for access to health care (*ISDN; a guide to digital business solutions*, 1997). Recent initiatives between South Africa and Norway to provide telemedicine technology could improve diagnosis, prescription, occupational therapy, physiotherapy and nursing training in remote areas of South Africa. Various pilot studies are already underway in some areas of the world to determine the possibilities of distance medicine. Remote-controlled procedures and operations have already been conducted successfully, thanks to digital media (*ISDN: a guide to digital business solutions*, 1997).

For general and less critical information, CD-ROMs and DVDs give quick access. Already CD-ROMs such as *Home medical advisor pro* (Schueler, 1995) ('expert medical advice at the touch of a key – 24 hours a day') and *Family Medical Guide* (American Medical Association, 1995) are freely available. Numerous Internet sites, for example eMedicine, WebMD, OnHealth and RealAge, supply health information to health clients and consumers.

The immediacy of digital media is a major advantage for feedback purposes. Feedback is necessary for the control and management of communication. Feedback can be an integral part of the digital document, such as a response to a specific choice, an immediate contact with a specialist participating in a discussion group, or the measurement of the success of the message, for example when members of the public vote on issues such as smoking in public buildings.

6.2.1.6 Reinforcement

Owing to the relatively cheap methods of production, digital media provide ample opportunity to reinforce messages. This can be done by hypertext linking to other digital documents, repeating messages, redesigning of messages, and presenting the messages in various formats and applications.

Although there is still a large part of the South African community that does not have access to digital media, more people today have access on a daily basis than would read any one of the traditional media, the only exception being radio (Independent Newspapers/Kaiser Family Foundation survey, 1999). Digital media should therefore be a serious consideration in the development of any health promotion programme.

When traditional media are used for health promotion, digital media can contribute significantly towards cost-effective reinforcement. An added value is the fact that many opinion leaders do have access and use the Internet on a regular basis. Where mass communication messages are dependent on an opinion leader, this opportunity for health communication should not be neglected.

6.2.2 Advantages as a result of the nature of health communication

6.2.2.1 Interpersonal communication

Although interpersonal communication is probably the aspect of health communication where digital media may have the least influence, the media can play a significant role in the enhancement of the relationship between health professional and client.

In modern health care, the aim is to help the client to take responsibility for his or her own health. This implies that the patient should participate and share in decision making. However, often the patient and the doctor are at different stages in the decision-making process, which may lead to confusion and eventually distrust on the part of the patient, and impatience and irritability on the part of the health professional.

Digital media that patiently explain the disease, the procedure or treatment would therefore enhance the doctor–patient relationship. The digital information can be paused, repeated, and printed to take home, the interactive multimedia can clearly demonstrate, the advantages and disadvantages can be shown from various perspectives, and the outcome can be indicated in more detail than would be possible for a busy health professional to explain. It is therefore recommended that patients and health professionals or their assistants consult digital media together, especially where problems with decision making or compliance to treatment exist.

In most health care situations, the client is ill. This causes stress and in a stressful situation communication is not as successful as it should be. The patient is upset and does not listen intently and sometimes does not respond in an appropriate manner. Often a client comes home after a visit to a doctor only to discover that he/she was so upset that he/she did not listen properly to the doctor, forgot to ask the most important questions and cannot remember what the doctor said. This is particularly true of the elderly or those that do not have the same home language as the doctor.

Most of the time patients have no alternative means of obtaining the necessary information. However, if digital media can be made accessible to these patients, much can be done to restore confidence, dissipate fears, alleviate worry, etc. On the one hand, portable digital media can be made available to the patient so that he or she can access the information when his/her emotions have calmed down. On the other hand, objective digital media can help to calm emotions and bring perspective.

For example, when an orthopaedic surgeon recommends a hip replacement, the patient might experience uncertainty, fear, and even anxiety and shock. A hip replacement is a major operation and it requires a fair amount of explaining. The patient's emotional condition may be a barrier for successful communication to take place, especially if good communication skills are lacking. If the patient and the doctor can consult digital media together, the message can be reinforced by various multimedia formats, the commentary and/or text can be in the home language of the patient, the medium can be stopped and restarted if necessary. Through a role model, which may be chosen according to a patient's cultural group and/or race, the patient can learn about the preparation for the operation, the procedure and treatment, the recuperating phase, compliance to treatment and expected outcomes. Even the operation can be shown in detail if the doctor should deem this necessary.

Once the patient gets home from the consultation, he/she can access the surgery's website, read a digital newsletter aimed at people with hip prosthesis, converse with other patients in a chatroom, pose questions to the doctor, be referred to other sites containing information on hip replacements and be referred to a support group, to name but a few possibilities.

To empower health care consumers, they are encouraged to become knowledgeable about their conditions. In health care situations there is often unequal power distribution between the

participants. By being well-informed clients may earn the respect and cooperation of health professionals. Health information for this purpose can already be gained from the Internet at health Websites such as that of Mayo Clinic, Health World, eMedicine, WebMD, OnHealth and others. A health professional can refer clients to Websites that follow the same clinical guidelines and treatment protocols that he or she does.

From the professional's point of view, the doctor–patient relationship will improve if there is better compliance to treatment, a situation that may be greatly improved by digital media. Digital media can help the patient to gain better control over his/her condition, reach targets and thus comply to treatment. Techniques and programmes in which the patient takes progressive steps to take more control, to visually see the results, feel the satisfaction of progress, be rewarded for correct behaviour, and be reminded of appropriate self-care will increase the satisfaction of both patient and health professional.

Personal health care communication is not restricted to patients and health professionals. Communication also takes place between members of the public, friends, colleagues and family members. To ensure correct, reliable and objective communication, the value of digital media as an instrument to corroborate facts, demystify medicine, remove stigma, etc. is obvious.

6.2.2.2 Group communication

Health care teams developed mainly from the need to make health care more affordable and to deliver a one-stop service (see 5.3.2). The result was family practices that included general practitioners, physiotherapists, pharmacists, etc., and hospital groups such as Medicross.

Group activities pose specific requirements to be successful. The participation between the various professionals involved, the integration of treatment, availability of patients' medical records, utilisation of group resources, etc. require accurate planning and execution. Digital communication between the various health professionals could facilitate and enhance the cost effectiveness related to these matters. Digital systems of control and communication could ensure the success of the interaction between the partners.

The advantages of digital media for the clients of health care teams are numerous. Firstly, the integrated medical record can be available to the client via a password or pin number. The client can be made aware of the holistic approach followed by the team through customised digital

communication of packaged information to a specific patient or group of patients. Feedback mechanisms and gradually increased control and management of health could orientate clients from an illness orientation to a health orientation.

Self-help groups already feature prominently on the Internet. Many health care companies and institutions have recognised the advantages that electronic media hold for the success of self-help groups right from the beginning.

Through electronic self-help groups, ties between participants are formed that may be as strong as real-life relationships. These relationships lead to psychological and emotional support. This is made possible by the honesty arising from the relative anonymity of participants, which in turn leads to self-disclosure. Members of these groups usually meet as equals and therefore the self-disclosure is reciprocated. Where role models are investigated, the electronic environment is experienced as safe; so safe, in fact, that alienation due to disease or dysfunctional behaviour can even be overcome, at least within the cyber community. Members share information and gain feedback from a safe 'distance'.

Focus groups gain enormously from the advent of digital media. Geographical constraints are no longer a hindrance when experts from different countries and different time zones participate in focus groups. With today's super specialisation, the experts are dispersed around the globe. However, this can now be an advantage because different perspectives from different environments may throw new light on old problems. Sample groups may consist of worldwide populations, giving a broad background for the planning of health promotion in which world trends are taken into account.

The aim of therapy groups is to improve the health and well-being of clients through direct intervention in a disease or problem. The client usually needs direct contact with the therapist. In a digital setting, this is facilitated by personal e-mails, chatrooms and newsgroups. To some extent the interactions are similar to that of a support group, but in this instance the health professional is the central source of information. The health professional gives guidance and advice, and directs and monitors treatment.

This type of interaction also takes place in case management, one of the tools of managed health care. Although the quality of care is a primary aim of managed health care, the management of

cost is equally important. The case manager is therefore expected to manage the patient on the one hand, and the cost on the other. Tasks performed by a case manager can include the following:

- Record keeping/registering the patient on a programme;
- contact with and support of the patient;
- supply of information on the illness or disease;
- informing the patient about the treatment;
- ensuring compliance to treatment;
- guiding the patient towards health or the management of a chronic disease;
- helping the patient cope with relapses;
- preparing a patient for discharge;
- supporting the family of the patient; and
- reporting to the managed health care organisation regarding the health status of the patient and the expenses incurred.

Digital communication has made it possible to deliver a remote case management service even if the case manager and patient are located in different geographical areas. One of the management tools of case management is the use of step-down facilities. Local on-site delivery of health care can be integrated with the remote case management of managed health care to deliver an affordable, holistic health care service.

In all of the tasks listed above, digital media can play a significant role, ranging from off-site record keeping to chatrooms and newsletters.

6.2.2.3 Organisational communication

Even for employees of complex organisations it is often difficult to understand the procedures, policies, rules, processes, etc. of the company. Where members of the public interface with these organisations, the level of confusion increases.

As mentioned before, the client is usually at a disadvantage because of illness, anxiety, stress and uncertainty about the future. When the confusion of entering an institution such as a hospital is added, the possibility of misconceptions and misinterpretation of communication increases. Organisations must find ways of overcoming intimidation, confusion and dehumanisation in order to achieve maximum health outcomes.

The situation can be improved by the use of digital media either in the calm environment of the client's own home, in the doctor's rooms or at the institution itself. For example, the hospital could introduce itself in various languages and cultural settings to clients through a Website, CD-ROM or DVD by showing photographs of the building, the grounds, the superintendent and matron, other personnel members, the rooms, the theatres, etc. The superintendent can welcome the clients through a verbal clip, reassuring them of the best professional treatment. The rules of the hospital can be explained, prepared menus can be shown and facilities for visitors can be indicated. To show a holistic approach to health care, the various services can be explained. A caring patient-orientated approach can be indicated through the explanation of patients' rights and privileges.

Should the hospital specialise in certain diseases or treatment, these can be explained in more detail. The treatment protocols can be given so that the patient knows what to expect. The hospital's policies, for example regarding generic medication, can be explained.

In managed health care, patients are expected to exert some control over expenses and to report back to their medical fund or managed health care organisation. In a digital publication, tariffs can be explained and regularly updated. Facilities for questioning can be supplied. A general feedback mechanism can be introduced that would give patients an opportunity to alleviate their fears and also to supply the hospital with data to be used for future planning.

A well-designed Website will without doubt help to create a positive attitude towards the institution, even while the patient is in ill health.

Apart from communication directed at clients or prospective clients, the hospital can also employ digital media to communicate with the medical fraternity and with its own personnel. Examples are digital newsletters, centralised medical records, regularly updated theatre lists and digital diaries.

What has been said above of hospitals, can also be applied in adapted formats to other organisations within health care, such as managed health care organisations and medical funds.

6.2.2.4 Mass communication

Although it is difficult to determine the success of mass communication via digital media due to the shortage of studies to date, it can be stated that the possible range of exposure is immense. If the aim is to reach a mass audience, the Internet affords limitless opportunity.

The ability to sway public opinion and influence world trends is present in any mass medium. The extent to which the mass media alone could contribute towards health promotion is uncertain. The wide publicity that the publication by AHN.com of a complete, real-time birth on the Internet received on 16 June 1998 and the more than a million people who watched it give some indication of the power of the Internet as a mass medium. 'The worldwide response shows the tremendous consumer demand for reliable health information presented in a caring, compelling manner', was the response of AHN.com's president Tod Fetherling. The viewing was made possible by Real Broadcast Network, whose general manager, Mike Metzger said: ' The viewership of this event demonstrates that the Internet is now a mass medium' (The Health Network.com, 1998).

As newspapers, newsletters and magazines are published more and more on-line, the exposure to health messages in these media could increase.

One of the possibilities provided by electronic mass media is the relatively easy segmentation of the target population and the dissemination of health messages to specific online communities. In this way electronic media could play an even more important role than traditional media. Planners of health promotion campaigns will be able to target specific audiences in messages designed for each audience. These messages could even be personalised.

As stated before, the feedback possibilities of electronic mass media are unrivalled. Online questionnaires, opinion tests, voting, chatrooms, bulletin boards, etc. can be utilised to obtain feedback.

In traditional mass media campaigns, there is always a problem of determining the right number of messages at a given time. If too many messages are given, it might lead to inattention and confusion. In electronic media the user has control over the medium and therefore determines the exposure to a message. Because of inexpensive distribution, it is possible to redesign messages as soon as inattention develops or confusion sets in. Continuous feedback between audience and source will ensure early detection of these problems.

6.2.2.5 Empathy

Empathy is the ability to understand another person's emotions, conditions and feelings and to respond accordingly. To show empathy in a health care setting, observational skills, communication skills, perceptual skills, emotional sensitivity and caring are needed.

Electronic media can be used to support and complement the empathy established during interpersonal communication, especially when the health professional lacks communication skills. The caring interest in the client can be maintained by making use of e-mail, by referring the client to a support group on the Internet, and by supplying pertinent information on the client's problem via electronic media.

This continuation of empathy may have a stronger influence on the client and his/her compliance to treatment or readiness to change behaviour than the empathy shown in a twenty-minute, face-to-face consultation. The health professional is expected to have a 'bed-side' manner but when the care goes beyond the expected, it has extra meaning.

6.2.2.6 Control

As explained in 5.4.2 above, clients cope better with illness and disease if they have some measure of control over their condition. A sense of personal control over the environment is needed to alleviate feelings of helplessness and powerlessness. Control over an environment need not be direct but can be indirectly experienced by the predictability of situations. In other words, if the client knows what to expect, what will happen next, what a treatment entails, etc., he or she feels in control. The utilisation of digital media in a hospital setting (see 6.2.2.3 above) would, for example, reinstate some control over the 'foreign' environment for the client. The fear of the unknown and feelings of incompetence can be relieved by digital communication that empowers the client to deal from a position of knowledge with the situation; it enables the client to interact with the hospital staff on a more equal footing.

It can be argued that relationship control in medical matters should rest in the health professional rather than in the client; the health professional is after all the expert and the client consults the professional for expert assistance. However, for the success of managed health care, the individual must take more responsibility for his or her own health. Responsibility cannot prevail if there is no control.

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Knowledge about the condition or disease, the treatment, the prognosis, etc. can help to establish control. As the health professional is already well informed about these matters, it is the duty of the professional to transfer some if not most control to the client, without avoiding his or her own responsibility. The best way to achieve this is by allowing a certain 'distance' to develop between health professional and client, whereby the client gradually takes control while the health professional gives ongoing support.

Digital communication can contribute to this all-important step in health promotion. For example:

- the client can be responsible for regularly (daily) reporting on his or her health status through e-mail, thus giving feedback;
- support can be available through electronic support groups;
- teleconferencing can render professional support to clients in remote areas;
- the health care team of the client can be in contact with one another digitally to monitor mental well-being, medication, physiotherapy, etc. and to react to acute situations; and
- self-paced digital educational publications on the condition or disease and its treatment can be made available gradually to the client at an appropriate time in the client's phase of treatment decision, implementation and evaluation (see 5.6.5).

6.2.2.7 Self-efficacy

The client's belief in his or her ability to perform under specific conditions is an important component of successful health care outcomes. Generally, people are more willing to do what they feel they can do well. If a client therefore feels that he or she can cope well with the treatment of a condition, the likelihood of the treatment regime being followed increases.

In health communication the focus should be on strengthening a person's expectations of managing his or her condition or disease. The client must expect and believe that the performance of certain behaviour will result in changed circumstances. To achieve this, the following can be utilised:

- positive, encouraging communication and feedback from the health professional;
- appropriate behavioural modelling;
- family and friends reaffirming their belief in the client's ability to execute the behaviour; and
- feedback from the client regarding the conditions experienced when engaging in the behaviour.

The contribution that digital media can make towards self-efficacy is vast. As an excellent feedback mechanism, both health professional and client can utilise digital media. Virtual formats can contain a variety of models suitable to various client groups. In the case of an obese person, for example, feelings of self-efficacy are very low, mostly because of recurrent unsuccessful dieting. The health professional can utilise digital media to:

- graphically show how a person will loose weight during a particular treatment regime, for example with pictures of other clients at various stages of the treatment;
- supply correct information about nutrition and dieting;
- supply a diet that can be customised by the client;
- supply a customised exercise programme; and
- supply feedback mechanisms.

All of the above will be perceived as positive communication from the health professional who expects his/her client to succeed in the treatment of obesity.

The client can join an online support group. These groups consist of members who all have (or had) the same problem, but feel positive about their ability to succeed. In times of relapse or uncertainty, they are available to one another to support and reaffirm their belief in one another's ability to overcome the problem.

Support groups can make use of virtual reality models to demonstrate the successful outcome of the correct behaviour. As there are cultural differences associated with obesity, it is possible to create or record various cultural models (speaking various languages if applicable) for this purpose. It is important that a client must aspire to a role model and therefore the role model should be slightly superior to the client (see 5.3.1). For maximum effect, role models from different social strata can be made available.

The client can give regular feedback in the form of e-mails or Internet responses. The health professional can respond by encouraging the client and congratulating him/her on the successes. Specific responses, for example a personal e-mail message, can be given for reaching pre-set goals.

Healthy people also need to experience self-efficacy in order to adhere to healthy lifestyles that would prevent future ill health, and they must believe in their ability to change unhealthy behaviour.

Health promotion campaigns can make use of digital media to enhance self-efficacy. On a health website, for example, a short test on the disadvantages of smoking may appear. For each correct answer, the user receives an immediate award, even if it is just a bell ringing. This simple exercise will create a feeling of achievement that will be carried over to the next screen where the user may be given information on how to stop smoking.

Adult learning theory purports that adults learn by small steps of achievement. This theory has been incorporated in many computer-aided learning programmes. In essence it is the same as the self-efficacy principle that facilitates the learning process for behavioural change in health care.

6.2.2.8 Trust

One of the disadvantages of electronic information has been its questionable authority. However, since the inception of quality evaluation facilities on the Internet, for example *The Six Senses Review*, *Magellan* and *The Point Reviews* (Brown, 1998) and the entry of well-known health professionals and medical institutions into the electronic information arena (such as Mayo Clinic), the situation has been changing with regard to the trustworthiness of electronic health information. It is true that most clients do not have the knowledge or ability to discern between quality information and that of lesser quality, but this holds true for all information: personal, electronic and paper-based. Therefore, the health professional or electronic health care publisher/editor/webmaster should act as gatekeeper for trustworthy information. Health on the Net Foundation (2000) has developed a Code of Conduct for medical and health Websites to which a digital publisher can ascribe. This code lends credibility and, as it gets better known, will help to establish authority.

The client must feel that he/she can trust the electronic information, that the source of the information respects him/her and behaves in a responsible and predictable manner. This can be achieved by the health professional's recommendation of specific sources and electronic publications. The trust needed for the success of digital communication therefore rests strongly on the personal trust relationship already existing between the health professional and the client.

The appearance, design and layout of a digital medium can contribute to the trust that a client feels towards the information. As in a hospital health care setting, a dependable image can be created by the visual elements present in the design. For example, a health care Website with a clean, almost 'sanitary' appearance will usually carry more authority than a Website with cartoons; a well-structured site will have an advantage over a poorly structured one; likewise a site with consistent navigation will project stability. A site that gives the names of contributors has more credibility than one with anonymous authors. This is especially true when digital media is used as mass communication tools.

By customising information for specific clients, digital media can contribute to the re-humanisation of the client, which may lead to enhanced personal relationships between the health professionals and clients.

6.2.2.9 Self-disclosure

Self-disclosure can be facilitated by digital communication. Because of perceived anonymity and distance, clients are usually truthful, frank and sincere. This fact can have enormous advantages for therapeutic intervention. People usually resent filling in forms, but in an online support group they easily divulge personal information. Because there are no geographical limitations, people of the same cultural or language groups can form and participate in their own support groups. For example, Zulu-speaking bulimia sufferers (one of the more recent problems under affluent township residents – Jacobson, 1999:89–90) across the country can form such a virtual group where they can share their thoughts and feelings.

6.2.2.10 Confirmation

Confirmation, that is recognising the client as a unique individual, often suffers because of depersonalisation, time constraints and indifferent communication in health care settings. Clients can be confirmed by communicating with them in their own home, or a step-down facility.

Digital media selected for a specific client suffering from a specific condition, personalised and followed up by an e-mail from the health professional could contribute to confirmation. Where feedback facilities are provided, feelings of alienation and rejection can be removed. Digital support groups can also play a role in this regard.

6.2.2.11 Verbal and non-verbal communication

Digital media makes provision for both verbal and non-verbal communication. The application of multimedia, although still in its infancy, is already having an effect on the way people

communicate.

Digital media applies verbal communication in much the same way as paper-based media, but with added value such as feedback, different language options, and interactivity. Emoticons and other paralinguistic indicators enhance verbal communication to the level of 'secondary orality' (see 4.3.3). In addition, the spoken word is available with digital media.

Non-verbal communication is limited in digital media. However, these media do project a certain image, which may have a strong influence on messages. Even the fact that a practice or institution uses digital media may project an image of modern, up-to-date health care.

Design and layout can influence the image projected by a digital medium. For example, the use of the colour red may indicate sickness, pain, emergency; the colour blue may indicate solidness, dependability, trustworthiness, authoritativeness, etc. It should be noted that culture may play a significant role in non-verbal communication.

Video conferencing and virtual reality make more non-verbal indicators possible, for example, artefactic, kinesic, and occulesic messages.

6.2.2.12 Narrative communication

In the realm of stories lies a wealth of wonder, knowledge, experience and wisdom. Stories had long been used to bring home truths and principles. In health care, stories also have a role, especially to understand cultural differences in health beliefs.

Digital media have the ability to create anything from a harsh scientific setting to a wonder world of exciting health adventures. Already there are health sites for children on the Internet that create this latter atmosphere.

Narrative communication need not only come from the source. Chatrooms and e-mail can be used by clients to explain their viewpoints or perspectives. As this communication is digital, immediate feedback and interaction becomes possible.

6.2.2.13 Humour

As in paper-based communication, gentle humour can be applied in digital media when appropriate.

6.2.2.14 Relevance to various health models

The various health communication models discussed in 5.6 show the important role digital media can play in the way clients respond to illness and health.

Although nothing can replace the dyadic communication of the therapeutic model, the supportive role of digital media can enhance the intervention to such an extent that the outcome changes significantly. Empathy (6.2.2.5), trust (6.2.2.8), self-disclosure (6.2.2.9) and confirmation (6.2.2.10), as represented in digital media for health promotion, contribute to such positive changes.

According to the health belief model, a client's health decisions are based on information and knowledge about the severity of a health threat, the benefits and barriers of preventative care, the prompting towards changed behaviour and the modifying factors that influence behaviour. The communication needed to obtain the information and knowledge can come from a variety of sources, including digital media. The main advantage of digital media is the opportunity for feedback, which is an important element in the health belief model.

Reports such as *Consumer health & medical information on the Internet: supply and demand* (Brown, 1998) become possible with the feedback from digital media. In this report, matters such as the demand for health and medical information, market segmentation, a profile of users (demographics and lifestyle), home medical monitoring, behaviour and attitudes are discussed. By taking note of these results, health professionals can design communication (mass, customised, etc.) to meet the needs of the market.

In the health belief model for compliance, knowledge and information play an equally important part. In addition, the client's state of illness (real or perceived) can influence compliance at any time during the treatment period. This is especially true for chronic patients. Clients' willingness to comply to treatment is also influenced by their belief in the treatment, the extent of the intervention, the complexity, the duration and side-effects of treatment and access to treatment.

No other medium can play such a positive role in compliance to treatment than digital media. Encouragement, support, interactivity, immediacy, ease of contact, supply of customised information, constant care and follow-up are facilitated by digital communication. As medication is

one of the biggest cost drivers in medical expenditure, compliance to medication treatment can result in substantial savings, which will offset the cost of digital media.

Simulated and virtual treatment of patients, support groups, chat rooms, and culture-specific role models can be used in digital media to demonstrate the advantages of compliance to treatment.

King's interaction model (5.6.4) can be expanded by the application of digital media, so that it is not only applicable to interpersonal nurse–patient communication, but also to disease managers and clients, home-nursing situations, and step-down facilities. All these are used in managed health care. The feedback needed in this model is facilitated by online digital media.

The participative model for decision making, where the client takes partial responsibility for his/her own health and treatment, is the most demanding but also the most rewarding model of health communication (5.6.5). Although some responsibility is shifted to the client, the health professional has a greater responsibility towards empowering the client to participate in the decision making. Personal contact remains important, but digital media can be used to speed up the process and to provide additional information when and where needed.

In digital format, information can be provided repeatedly, at various levels suitable to the client until he/she has reached the same decision-making stage as the health professional. Simulated and virtual representations of treatment protocols and their outcomes can assist clients. Feedback can be provided at regular intervals, also from family members. Once the stage of exploration of treatment is reached, digital communication with support groups, health teams and allied professionals such as social workers may be included in the model.

On reaching the treatment stage, the client becomes more dependent on support and caring that will enable him/her to self-manage the illness or disease. This support can be supplied or complemented by digital media.

In the development model of health communication, all the above stages take place. A client's health beliefs and attitudes are formed by exposure to media, other people and experiences. As access to digital media increases, the influence of health messages on the health of a population will increase. Digital media as mass communication tools will play an increasingly important role in the promotion of health according to the development model. As this model advocates health

communication as a continuous process, ongoing feedback is necessary. Both process and feedback are facilitated more by digital media than by any other.

6.2.2.15 Advantages for health promotion programmes and health marketing

As seen in 6.2.2.14, a person's beliefs and feelings about health are influenced by contact with events, other people, media and his/her own thoughts. Media is one of the means whereby people shape their lives. The expectation is that digital media will play an increasingly bigger role in the near future. It would therefore augur well for health promotion if a clear understanding exists about the possible application and advantages of digital media for health promotion programmes and health marketing.

Health promotion campaigns are aimed at helping the public to recognise and then avoid serious health risks, gain access to prevention and treatment techniques and to implement appropriate strategies to minimise health risks (5.7.1).

For members of the public and health professionals who have access to digital media, there can hardly be a better communication tool than online media. The feedback provided by these media give insight into the profile of health information retrievers, the utilisation of health information via digital media, consumer interest in health care matters, supply and demand information that facilitate marketing segmentation (5.7.1.3 and 5.7.2), appropriate product development and distribution (Brown, 1998). In addition, the need for health information and promotion (5.7.1.4) can be assessed. This would help clarify the objectives of a health promotion campaign (5.7.1.2) and serve as a basis for health marketing (5.7.2).

The suitability of digital media for an ideal health communication programme (5.7.2) aimed at health marketing, from a source point of view, is summarised in Table 2.

Table 2 Contribution of digital media towards health communication programmes for social health marketing, as determined by the literature study	
Requirements and facets of health communication programmes	**Contribution of digital media**
A response to audience needs (consumer-driven)	Excellent feedback mechanisms that determine audience needs
Implemented to meet the needs	Possibility of customised design of solutions; turnkey solutions to meet needs

Table 2 (continued)

Effective satisfaction of needs	Feedback ensuring effectiveness and easy adaptation of messages if needed
Continuation of needs fulfilment	Continuous feedback; more follow-up due to cheaper distribution
Alert to changes in audience needs	Excellent feedback mechanisms; continuous feedback
Ease of exchange for products/services	Relatively cost- and time-effective medium; good and constant support for behavioural changes available; variety of messages (e.g. cultural, language, literacy level) can be made available
Market segmentation	Variety of messages (e.g. for a specific cultural or language group) is possible; focus groups can be conducted via digital media channels; feedback facilitates market analysis
Pre-testing of concepts, message content and design	Selection of and communication to the test population are easy and inexpensive; feedback is easy; adaptation of messages after testing is relatively inexpensive
Variety of channels	Digital media are available as a mass media communication tool, personal communication tool (e-mail), teleconferencing, discussion forums, for support groups, etc.
Complex messages	Hypertext and multimedia enhance the possibility to transmit from the most simple to the most complex messages
Type of medium	Auditory and visual messages are possible
Cost	Digital media are relatively inexpensive and distribution is inexpensive
Reach	Reach can be unlimited
Frequency	Frequency can be unlimited
Continuity	Continuity can be unlimited
Number of intermediaries required	Relatively few intermediaries are required
Potential for overuse and oversaturation	Can be countered by variation in messages; clients can control usage themselves
Multiplicative effects	Excellently facilitated by hypertext
Degree of perceived authority and credibility	Can be assured by credibility of publisher; hyperlinks to other sources; ascribing to a code of conduct, regular updating; design of message content and image, etc.
Accessibility	Depends on the target audience, but access is increasing
Extent of control over the message	Source decides on the extent of control
Media values	Can be incorporated in the design but in final instance depends on the audience's hardware and software
Timing	Any time can be chosen by the source
Incentives	Owing to immediate feedback and hypertext, incentives can be incorporated in any message
Distribution	To those with access, distribution is excellent

Table 2 (continued)

Promotion	Mechanisms such as banner exchange may be used. Cross-advertising in other media may be expensive
Evaluation	Feedback gives excellent opportunity for evaluation and opportunity for easy adaptation of messages if needed

From an end-user's point of view, digital media can give access to unlimited health information and support, ranging from formal health education and informal conversations about health in chat rooms to games that teach about the system of health care.

The main advantage of digital media as tools for health promotion campaigns lies in the fact that:
- people with the necessary hardware and software can have 24 hour access to information, which is especially important for people who are ill and in need of information;
- messages can be tested and feedback obtained from a closed audience before being released to the general audience;
- an unlimited number of people can be reached;
- participants can communicate with various role players in the health system;
- reinforcement of messages can take place by presenting the message in various ways, and by a variety of multimedia;
- a variety of audiences can be reached by the same message;
- cost-effective adaptations of a message can be made to suit various cultural and language groups; and
- the message can be 'broadcast' in various settings, for example, in a doctor's waiting room, in an executive's office, in a community centre, at an old-age home.

The contribution of digital media for health marketing, where the consumer pays a 'price' in terms of time, effort and money to obtain health information, products or services, is invaluable. The ease, reach and time-effectiveness of digital media and the immediate feedback are unsurpassable by any other medium. Today there is no reason why digital messages cannot appeal as far as content, style, frequency, and timing is concerned.

6.2.2.16 Advantages for removing barriers to health communication
Although clients and health professionals have their own set of health beliefs and their own personal backgrounds that influence communication between them, careful planning of digital

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media can help to overcome most of the general communication barriers that impact negatively on the communication interaction.

The effects of *ego involvement* can be diminished when distance exists between the participants. The participant who feels threatened, may take his/her time to respond, weigh matters, absorb the message and formulate an answer. The message can be re-assessed countless times.

The *difference in knowledge* between the participants can lead to insufficient information to enable decision making and compliance to treatment. Digital media can provide virtually unlimited information to bridge the knowledge gap. Moreover, the information can be staggered and increase in depth as the need arises, and can be customised to suit the client's emotional state, background, culture, language, customs, health beliefs, etc. (see also 5.6). The information can be accessed in an environment familiar to the client, even in his/her own home. As clients become knowledgeable, they can ask questions and receive immediate feedback – there is no need to wait for the following appointment.

Outcome expectations can be illustrated by digital media. In a safe way, the results of different treatment regimens can be shown and explained, thus empowering the client to make a decision. This will also help with the *demystification of medicine*. When clients rely on the mysticism of medicine, they do not take adequate responsibility for their own health and well-being.

A popular joke says: 'Doctor, I don't need a second opinion. I can g*et all* the advice I want on the Internet!' Informed clients do consult the Internet when they experience health problems and in this way they decrease the knowledge gap between themselves and their health providers. Many clients want to take more responsibility for their health and want to have more control over their treatment and recovery. Today patients often know more about treatments, especially alternative and complementary treatment, than doctors do. Digital media can and should be used by both client and health professionals to increase their knowledge and keep up to date on the latest developments.

The *social status* of health professionals is still high today, despite many efforts in the mass media to portray the doctor as a normal human being. In digital communication, the health professional can remain in the background, alleviating the problem of contact avoidance, and withholding and

distortion of information on the part of the client. Support groups, for example, are extremely successful over the Internet, *inter alia* because all members are considered equal.

Differences in perspective lead to differences in the meanings awarded to messages. This is especially true of the spoken word and, unless participants get the opportunity to clarify meanings by feedback, miscommunication may result. People usually take more care when they write or record messages. In digital media, such as CD-ROMs, DVD and the Internet, the message is usually more permanent than the spoken word, which leads to more careful formulation of messages. In addition, careful and well-considered feedback can help clarify uncertainties. Where *ambiguity of language* exists and messages are complex, multimedia and hypertext can contribute to the correct or intended interpretation of a message.

Digital media need not be devoid of emotions – compare, for example, chat rooms and e-mail where some participants become emotionally involved. The *emotional involvement* in a personal therapeutic interaction cannot be rivalled by digital media, but where information about the level of client understanding and the client's appraisal of the outcome is not available, the *health professional–client relationship* suffers, leading to miscommunication. Digital media as complementary information sources and communication tools may be utilised to fill this void. In addition, digital media that include multimedia can be used to supplement the health professional's communication, especially where some of his/her *communication skills are lacking*.

Where clients feel uncomfortable, intimidated or too embarrassed to ask for information, the objectivity and distance provided by digital media give ample opportunity to clarify the meaning of communication messages and lead to *two-way communication*. Even *jargon*, terminology, perspectives and concepts can be explained in detail. Active involvement, simulated interaction, and patient-specific information are well facilitated in digital media. *Cultural and language barriers* may be overcome to a great extent and better comprehension and rapport may result.

Inaccessibility to health information is often the case in disadvantaged communities. Although ready access to digital media is not available yet, it is a fact that once the necessary infrastructure is in place, digital media will have a much wider audience than paper media due to its cost effectiveness, immediacy and permanence. To prevent *information overload*, the presentation of messages can be staggered, and hypertext can regulate the amount of information given at a

specific time. If a pull strategy is followed, the client can determine the amount of information for every specific interaction.

All of the above advantages will help curb *verbal manipulative agendas*. Clients should be empowered to make their own decisions and not be manipulated into adapting a specific behaviour. Unless there is buy-in from the client, non-compliance will follow. Through digital media, clients could become more knowledgeable, which will contribute to their decision-making abilities.

Most health professionals have a *limited time* period to spend with each client. This is one of the main barriers to communication. Not only does the professional have to spend time on diagnosis and treatment, but he/she also has to communicate with the client in order to deliver care and elicit compliance. In many ways, digital media can complement the professional's communication with the client, thus saving time (see also 7.1.1.2) and improving the quality of care.

Until very recently, the client's right to choose the health professional he or she prefers was entrenched in the fee-for-service system of health care. However, where clients enter a health care or a capitation programme, it is not always possible to consult the same professional each and every time. *Patient continuity* therefore decreases with an equal decline in compliance and satisfaction levels. In these situations, patient continuity can be accomplished through the utilisation of digital media – from both a client and a health professional perspective. Each patient's record can be recorded on, for example, the Internet or an intra- or extranet. Each record can be made accessible by way of a password, and each record can consist of two parts, one for access by the client and professional and one for access by the professionals only. All information and correspondence regarding the client can be recorded. When a new or different health professional is consulted, the full record is then available. This record can be transferable, not only between the professionals of one organisation or programme but even across geographical borders.

The information thus recorded can be expanded by hypertext and multimedia. If, for example, a child has just been immunised, a link can be added from the entry in the patient record to an immunisation schedule. In other words, the patient (or the parent) can determine at a glance when the next injection is due. Links can, for example, be provided to explain possible side-effects of the injection so that the parent/patient does not become unduly concerned if symptoms do appear. An

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automatic personalised e-mail note can be sent to the client at the time of the next immunisation date as a reminder. In this way the continuation normally provided by visiting the same health professional can be provided by visiting the same digital record. This is but one example of the digital record as a tool to ensure continuation.

6.3 *Disadvantages of digital media for health promotion*

6.3.1 Disadvantages inherent in the nature of digital media

The very fact that information is freely available on the Internet, and that anyone can contribute to the information on the Internet, has led to some of the disadvantages inherent in digital media.

6.3.1.1 Uncertainty regarding authoritativeness of content

There are numerous health care sites on the Internet and CD-ROMs available. Unfortunately the health care consumer has no way of determining which sites or CD-ROMs are from reputable sources. Some misinformation or biased information has also found its way to digital media. However, this is also true of other media. In time, as in other media, certain publishers, authors, companies, associations, etc. will become known as more authoritative than others. Already digital publications of Mayo Clinic and specific Websites have a positive reputation among users. Digital publications from universities and research institutions can be classified as authoritative with relative safety. A good reputation set by well-known paper-based environments, for example *Lancet*, or publishers such as Elsevier and Dorling Kindersley, can often be transferred to digital publications, thereby setting the same credibility.

New publishers of health care information can do a number of things to help create authoritativeness, such as the following:

- obtain an endorsement from a well-known health professional, professional society, etc.;
- provide full background and contact details, including the physical address of the publisher;
- supply an online information request service or chat room;
- provide a real-time professional advice service; and
- follow a recognised code of conduct.

6.3.1.2 Inaccessibility for disadvantaged groups

As seen in 2.3 above, digital media are not yet available to most of the third-world population. This is regrettable, but all indications are that access is improving rapidly. The recent development of WAP technology (see 2.5) may change the situation in South Africa dramatically.

6.3.1.3 Unique interfaces and multiple retrieval systems

Customised interfaces and a variety of retrieval systems have always been a problem for computer end-users. The advent of the Windows interface has brought a major improvement. Designers and publishers of digital publications for health communication would do well to follow the conventions that have been standardised.

The dominance of Microsoft Internet Explorer (at approximately 80% of the market) has alleviated some of the problems regarding Internet browsers, but new browsers are being released regularly (Lehto & Polonsky 1997:3). Until end-users become completely computer literate and digital publishers learn that standardisation will be to their advantage, this will remain a problem.

6.3.1.4 Slow retrieval times

Outdated hardware and insufficient bandwidth, especially in dial-up systems, are the factors that determine retrieval times. In research (Nielsen, 1997; Sullivan, 1998), it has been found that Internet users are time-constrained. They want the right information in the right quantity at the right time, the so-called 'just-in-time' (JIT) principle. Slow retrieval may lead to frustration, which may present a new type of health communication barrier that hampers successful communication. However, technology is improving by the day and these problems may soon be overcome.

6.3.1.5 Security

Medical information is private and confidential but there is always a risk of disclosure of this information, even of paper-based records. There is concern about the security of personal medical information over digital systems. Nevertheless, progress has been made in the area of e-commerce regarding security and this knowledge can be applied to medical information.

According to Rindfleisch (1997:95–96), information may be used, abused or leaked accidentally by medical personnel, due to insider curiosity, insider subordination, uncontrolled secondary use or unauthorised access by network intruders. Measures that can be implemented to protect private and confidential health information include (Rindfleisch, 1997:98):

- audit trail systems;
- coded patient identifiers (pseudonyms);
- digital signatures;
- firewalls;
- rights management software; and
- system management software.

6.3.1.6 Unfamiliarity with technology

In some instances, where the infrastructure and equipment do exist, end-users are not willing or knowledgeable enough to access health care information via digital media. In many areas, this problem is receiving attention. In the USA, for example, special programmes conducted by the National Institutes of Health (NIH) and Setting Priorities for Retirement Years (SPRY) Foundation are under way to teach the elderly how to access health information on the Internet (National Institutes of Health, 1997).

6.3.2 Disadvantages as a result of the nature of health communication

Health communication has its own set of requirements that differ from, for example, business communication. The success of health communication is extremely important because somebody's life or quality of life may depend on it. Every means possible must be harnessed to ensure success. Unfortunately, no single communication means or medium is perfect. Usually a combination achieves the best result.

In 6.2.2 above, it was seen that digital media have many advantages for health communication, often then in combination with other media. However, in some circumstances, digital media may have certain disadvantages or may be inappropriate. These are discussed below.

6.3.2.1 Interpersonal communication

It is doubtful whether anything will ever replace interpersonal communication where one can see, touch, smell and hear the person with whom one is communicating. In some circumstances, personal togetherness may be essential for the well-being of the client. Young children, the infirm, the terminally ill, the physical and mentally handicapped – these people may find it difficult if not impossible to communicate in any other way. Furthermore, a client's emotional state, background, intellect, health beliefs, etc. may also favour personal communication.

However, as interpersonal communication may be subject to communication barriers and a lack of personal communication skills, it could be to the advantage of both client and health professional to supplement personal communication with digital media where appropriate. For example, e-mail can be used to follow up on personal communication, to clarify uncertainties that came to the fore in the personal communication, expand on the information given in the personal interaction, reinforce the behaviour needed for compliance, etc.

6.3.2.2 Group communication

Digital group communication is generally seen as extremely successful. However, some instances of fraud and misrepresentation have been noted (see 4.3). On the one hand, the anonymity of digital media leads to openness and honesty, but on the other hand it can lead to falsehoods. In some forms of digital communication this might not be such a serious problem, but in health communication it may have permanent negative consequences. Where therapists or other health professionals take part in group communication, the chances of misrepresentation can be prevented or at least minimised.

6.3.2.3 Organisational communication

In today's corporate life, one often hears complaints of 'alienation' and 'being only a number'. This problem may be exacerbated by the use of digital communication, not only among the employees of the organisation but also from members of the public who interface with the organisation. Special care will have to be taken that the health care organisation or setting does not damage its image as a caring institution.

In research done by Kraut, Steinfield, Chan, Butler and Hoag (1998) in organisations, it was found that personal relationships become even more important in electronic networks where suppliers are concerned. They also found that personal relationships serve as a 'valuable governance mechanism', creating trust in an economic exchange, which reduces the likelihood of opportunistic behaviour. One of the examples used by these researchers is of a consumer pharmaceutical firm that needed to find a supplier for an unusual plastic container. The manager of the firm spent most of the search time on the telephone getting referrals from their current suppliers and professional colleagues.

From the research of Kraut *et al.* (1998) it is clear that synergy can be obtained when interpersonal relationships and electronic networks are combined in organisational

communication. Most routine-type communications can be handled most effectively by digital media, but in unusual situations, interpersonal interaction will still be needed.

6.3.2.4 Mass communication

Digital media have not yet been fully appreciated as mass communication media. According to Morris and Ogan (1996), mass communication researchers have 'nearly ignored the Internet'. According to long-held beliefs, the computer is seen by mass communication experts as a channel with a 'lean social presence'. Only now is the research community beginning to 'rethink assumptions and categories' (Morris & Ogan, 1996). Morris and Ogan also confess that 'the emergence of new technologies ... which combine aspects of both interpersonal interaction and mass media, presents something of a challenge to communication theory. With new technologies, the line between the various contexts begins to blur, and it is unclear that models based on mass media or face-to-face contexts are adequate.'

The dearth of research and subsequent unclear theory have led to the problem of researchers not being able to sufficiently describe the effects of communication and messages on audiences through the medium of the Internet as a mass communication channel. Although some sources see mass media messages only in an awareness-creating role (instead of being able to change behaviour) (see 5.3.4), this may no longer be true.

What may still hold true is that a critical mass is needed before the influence of mass media will be felt, simply because a certain number of people will then access the information (Morris & Ogan, 1996). Currently this mass is estimated at between 10 and 20% of a population (see also 6.3.1.2).

At present it is impossible to judge the disadvantages (or advantages) of digital media as mass communication tools for health promotion. More research will have to be done before such a judgement can be made.

6.3.2.5 Empathy

Empathy, where a complete understanding exists of the other person's condition and feelings, is probably not possible through digital media alone. Personal contact, in which the senses are employed to determine another person's attitude, emotional state, well-being, etc., facilitates empathy. However, communication barriers also hamper empathy in interpersonal communication.

To strengthen the relationship between clients and health professionals, a dual approach will render the best results. Empathy can be established through personal interaction, and can then be reinforced and sustained through digital communication.

6.3.2.6 Control

Although digital media can reinstate or enhance a client's sense of control (see 6.2.2.6), this is only possible if the client has control over the medium itself. If not, the client may feel more confused and even less in control. This fact poses a challenge to designers of digital media for health communication. Messages (content and image) should be designed in such a way that

- clients can easily find their way through the digital publication;
- additional information is available when needed;
- messages are clear and understandable for the specific audience;
- navigation is clear, easy and standardised;
- feedback mechanisms are in place; and
- help and follow-up is available.

6.3.2.7 Self-efficacy

As with control, the self-efficacy obtained through the utilisation of digital media can easily be erased if the client is not familiar with the medium. Until all end-users are conversant with digital media, some explanation and training may be needed. This is especially true of disadvantaged communities. In these areas opinion and community leaders may be trained to assist clients.

6.3.2.8 Trust

As yet, there is no general grading system for digital information, although steps are being taken in this direction (Brown, 1998; Health on the Net Foundation, 2000). At present, the onus of determining the authoritativeness of the information rests with the end-user or client. If doubt exists about the credibility of the information, feelings of distrust will develop.

This problem may be alleviated by using endorsements and accreditation, using reputable publishers of digital publications, a code of conduct, and by making feedback mechanisms available.

6.3.2.9 Self-disclosure

The very anonymity which leads to full disclosure in digital media, may also be exploited by ruthless people (see 4.3.1) and used to the disadvantage of health promotion. Although feedback and participation of health professionals may curb the unfortunate abuse of people's trust, the possibility that it may occur will probably always exist.

6.3.2.10 Confirmation

Objective, business-like messages containing scientific words and jargon can easily lead to alienation, de-humanisation and feelings of rejection. Digital media consisting only of these types of messages would usually not serve the purpose of confirming the client as a unique individual. However, one of the main advantages of digital messages is that they can be customised to suit a specific person, situation or condition, which could then have the reverse effect and lead to confirmation of the client.

6.3.2.11 Verbal and non-verbal communication

Both verbal and non-verbal communication is possible in digital media, although the extent of non-verbal communication is limited. In addition, except in real-time digital communication, it is usually not possible for the source of information to know the home language of the recipient of the message, unless this is made known by the recipient. Language itself may be a barrier in health communication (whether mediated or personal). It must be remembered, though, that digital media can be created to include many languages and cultures, using verbal and non-verbal symbols of communication.

6.3.2.12 Narrative communication

Digital media can be used for narrative communication in the same way as it takes place in personal communication. One disadvantage is that facial expressions, eye contact, voice intonations, etc. cannot enhance the success of the communication. To some extent emoticons may replace them.

Most people do not have the necessary typing skills to communicate long messages via the keyboard, but voice input changes this situation.

6.3.2.13 Humour

There is no disadvantage in the use of digital media to bring in gentle humour in health communication.

6.3.2.14 Relevance to various health models

In any health care interaction, but especially in the therapeutic situation, it is not advisable to use only digital media to convey information and knowledge, elicit behavioural change and ensure compliance and satisfactory health outcomes. Using only digital media may lead to negative results and unsuccessful communication efforts because the important initial interpersonal interaction, empathy and trust are not established and therefore a poor health professional–client relationship may result. However, digital media can play a strong supportive role in the therapeutic situation.

6.3.2.15 Disadvantages for health promotion programmes and health marketing

Digital health promotion programmes can only be successful if a medium has reached a critical mass. Unfortunately the greatest need for health promotion exists in communities that do not have adequate access to digital media. Among other things, this inadequate access may consist of:

- unreliable primary power sources;
- incompatible signalling systems between countries;
- networks, systems, hardware and software not being maintained, developed or replaced when necessary;
- insufficient funds;
- untrained people to operate and maintain systems; and
- cultures, policies and power struggles that are not conducive to electronic networking (Mikelsons, 1992).

Even in communities with access to digital media, the influence of the Internet as a mass communication medium is not yet known. More research is needed before any conclusions can be drawn.

As in most marketing, cross-advertising and cross-marketing increase the chance of the successful transfer of messages. The same is true for health marketing. If digital messages are reinforced by messages in paper-based media, the success rate will improve. If a personal

message given by a primary health care nurse is reinforced by an electronic billboard along a highway or at an information kiosk in a bus terminal, the results will improve.

6.3.2.16 Disadvantages for removing barriers to health communication

Misinformation, inappropriate and incomplete information given through digital media (as in any other type of medium) may contribute to the barriers of health communication. For example, the *difference in knowledge, power, social status*, and differences in *perspective* may increase. Messages that are devoid of emotion, contain jargon and scientific terms will increase the *emotional distance* between client and health professional and will have a detrimental effect on the *relationship* needed for quality health care and satisfactory health outcomes.

Poorly designed digital messages may prevent *two-way communication*. On the other hand, well-designed messages may lead to a situation where the health professional relies too much on digital communication. Health professionals must still strive to improve their own *communication skills* even if excellent digital communication is available.

The danger of *information overload* is greater in digital than in paper-based communication, the reason being the easy and cost-effective distribution. Even for otherwise discerning clients, it is difficult to select the authoritative and worthwhile information from the abundance available on, for example, the Internet.

Because digital media is still new to many people, it can have a powerful effect. For example, people who are very level-headed are sometimes *manipulated* into believing everything they read on the World-Wide Web.

6.4 Evaluation

In this chapter, the advantages and disadvantages of digital media for health communication have been explained. It has been found that although digital media can contribute vastly to the success of health promotion, some situations still call for interpersonal communication. Digital media can never fully replace personal communication. However, they may contribute considerably towards alleviating the problems experienced in health care communication.

As people become better acquainted with digital media and as access improves, the application of digital media to promote health will increase. It is therefore most important for the health

communication manager or expert and health professionals to take note of the possibilities of digital media to serve the purpose of health promotion. By utilising both conventional and digital media, the success of health communication is increased, but utilising only one leaves a gap.

In the following chapter, the application of the different media in various health care settings are discussed to help those concerned with health communication select and develop digital media for use in specific health care settings.

Chapter 7 Recommendations for the use of digital media in health care settings

7.1 Introduction

Guidelines for the selection, development and the utilisation of digital media in health care settings can assist health professionals, health communication specialists and managers in their planning and implementation of health promotion strategies. Based on the advantages and disadvantages of electronic media for health communication, an indication of the suitability to task in various health care settings follows.

7.2 Selection and/or development of digital media for health care settings

Sources of health communication can make use of interpersonal, group, organisational and mass communication in their media. The audience can consist of individuals, groups (e.g. patients, families of patients, support groups, health care teams) and the public at large.

Each source of communication should take its own audience into account when selecting or developing media. Factors that define the audience include the language and cultural groups, the age groups, the type of patients (e.g. mental or orthopaedic patients), the health belief system of the recipients, their level of information and language literacy, their educational level, accessibility to media and media hardware and the geographical area in which the hospital functions (e.g. rural or city environment).

Media aimed at the public should be free of medical jargon and in laymen's terms wherever possible. Unfamiliar terms should be explained.

Electronic media for health care settings should mirror the quality of care a patient may expect to receive in the setting. As was seen in 6.2.2.8 and 6.2.2.11 above, this is a form of non-verbal communication. The quality of the content, the design and the layout can either advance or detract from the authoritativeness and trustworthiness of the setting.

The content should be unbiased and free of ego involvement and verbal manipulation. The communication must be clear and contribute to the demystification of medicine. If well structured, the content of digital media provides an opportunity to remove the knowledge differences between

health professional and clients as well as the social differences that may otherwise impair communication.

The specific advantages contained in the nature of digital media should be meaningfully utilised to their full extent. These can include the application of multimedia, interactivity and hypertext. The alienation, dehumanisation and confusion often experienced in a health care setting can be countered to a great extent by making use of increased user control, immediacy, reinforcement and feedback as provided by digital media.

Although the message should be clinically correct, it must not be devoid of empathetic, confirmational and caring communication. Communication must include ample opportunity for feedback to counter one-way communication, emotional distance (at least to some extent) and any lack of communication skills.

Where health promotion and behavioural changes are the aim, learning theories should be taken into account. A measure of control should be passed on to the user, and self-efficacy should be promoted.

Communication techniques such as self-disclosure, verbal and non-verbal communication, narrative communication and humour can be applied to enhance the communication.

In Table 3, a summary is given of criteria to be used in the selection and/or development of digital media.

Table 3   Summary of criteria for the selection and/or development of digital media for health care settings
Communication must be designed for a specific audience, taking into account:
Individual/group/organisational/mass communication
Age
Culture
Language
Type of patients
Status of patients (emotional and physical)
Health belief systems of the recipients
Level of information literacy, language literacy, educational level, current knowledge
Access to digital media
Geographical environment

Table 3 (continued)

The content should:
Be free of medical jargon and in laymen's terms when aimed at non-medical recipients
Explain unfamiliar terms
Be unbiased
Be without ego involvement
Be free from verbal manipulation
Be clear and contribute to the demystification of medicine
Provide an opportunity to remove the knowledge differences between health professional and patient
Aim at removing the social differences that may otherwise impair communication
Be empathetic and caring
Be confirming
Include ample opportunity for feedback to counter the traditional one-way communication, emotional distance and lack of communication skills
Be clinically correct
Be trustworthy and authoritative
The design of electronic media for health care settings should:
Mirror the quality of care a patient may expect to receive in the setting
Enhance the authoritativeness and trustworthiness of the setting
Take the level of user sophistication and information literacy into account
Conform to proven digital design principles regarding image and navigation
The communication techniques should:
Take learning theories into account to effect learning and behavioural changes
Facilitate the sharing of control
Promote self-efficacy
Include verbal and non-verbal communication
Use self-disclosure, humour and narrative communication where applicable
Where applicable the media should include:
Multimedia
Interactivity
Hypertext
Feedback.

7.3 Utilisation of digital media in selected health care settings

In an ideal managed health care situation, communication to promote health and well-being will:

- discover the emotional state of the client, the physical status, the client's medical history, and his/her health beliefs and personal background;
- assess the client's current knowledge about the condition;

- assist in making a diagnosis;

- determine the client's position in the decision-making process;

- explain the condition, prognosis, treatment, alternative treatments, possible outcomes of the various treatments and the costs of the various treatments;

- empower the client to make a treatment decision;

- answer questions regarding all of the above;

- ensure that the client complies to treatment, change behaviour, etc.; and

- effect an adaptation of treatment if necessary.

In almost all of the above steps, digital media can play a significant role to help the health professional spend his/her time more effectively while improving the health and well-being of the client and ensuring quality of care. Digital media can never replace the health professional, but digital media can complement all other health communication.

In Table 4, a selection is given of possible utilisation of digital media for health promotion in four selected health care settings.

Table 4 Some applications of digital media in selected health care settings					
Setting	Application	CD-ROM	DVD	Internet	Integrated media
Hospitals and clinics	Immediate support for remote clinics			✓	✓
	Simulation of operations, treatments, etc.	✓	✓	✓	✓
	Reinforcement and compliance	✓	✓	✓	✓
	Health care and wellness information	✓	✓	✓	✓
	Organisational, utilisation, repetitive and procedural information	✓	✓	✓	✓
	Marketing of the facilities and expertise	✓	✓	✓	✓
	Archiving	✓	✓		
	Continued medical education	✓	✓	✓	✓
	Digital medical monitoring			✓	✓
	Remote controlled operations and distance medicine			✓	✓
	Online client support			✓	✓
	Current knowledge assessment			✓	✓
	Patient records			✓	✓
	E-commerce			✓	✓

Table 4 (continued)

	E-mail			✓	✓
	Electronic diaries			✓	✓
	Video conferencing			✓	✓
	Recruitment			✓	✓
Consulting rooms	Diagnoses and treatment information	✓	✓	✓	✓
	Reinforcement and compliance	✓	✓	✓	✓
	Health care and wellness information	✓	✓	✓	✓
	Organisational, utilisation, repetitive and procedural information	✓	✓	✓	✓
	Marketing of the facilities and expertise	✓	✓	✓	✓
	Archiving	✓	✓		
	Continued medical education	✓	✓	✓	✓
	Digital medical monitoring			✓	✓
	Client information gathering			✓	✓
	Client records			✓	✓
	Online client support			✓	✓
	Current knowledge assessment			✓	✓
	E-commerce			✓	✓
	E-mail			✓	✓
	Electronic diaries			✓	✓
	Video conferencing			✓	✓
	Consultation			✓	✓
Medical funds	Health care and wellness information	✓	✓	✓	✓
	Reinforcement and compliance	✓	✓	✓	✓
	Organisational, utilisation, repetitive and procedural information	✓	✓	✓	✓
	Marketing of the fund and its services	✓	✓	✓	✓
	Archiving (data warehousing)	✓	✓		
	Digital financial account and member monitoring			✓	✓
	Health status monitoring			✓	✓
	Support for remote branches, brokers and agents			✓	✓
	E-commerce			✓	✓
	E-mail			✓	✓
	Electronic diaries			✓	✓
	Video conferencing			✓	✓
	Recruitment			✓	✓

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Table 4 (continued)

Support groups	Learning through virtual reality role models and outcomes simulation	✓	✓	✓	✓
	Reinforcement and compliance	✓	✓	✓	✓
	Healthcare and wellness information	✓	✓	✓	✓
	Digital medical monitoring			✓	✓
	Online member support			✓	✓
	Current knowledge assessment			✓	✓
	Marketing of the group and its services/activities	✓	✓	✓	✓
	Recruitment of members	✓	✓	✓	✓
	E-commerce			✓	✓
	E-mail			✓	✓
	Video conferencing			✓	✓

7.4 Evaluation

In this chapter, guidelines have been given for the selection, development and utilisation of digital media in health care settings. These can assist health professionals, health communication specialists and managers in their planning and implementation of health promotion strategies. As health promotion takes place within a specific environment, various applications for digital media in four health care settings have been given.

From Table 4 above, it is abundantly clear that digital media are extremely suitable for health communication in a variety of health care settings. Where health care settings are subject to managed health care, and health promotion is therefore an objective of health communication, the health communications manager/specialist should also take into account the criteria for the selection and/or development of digital media, as set out in Table 3.

In the previous chapters, all the relevant information on digital media, health promotion in managed health care, communication and digital communication, communicate in health care and the advantages and disadvantages of digital media for health promotion have been given. In the concluding chapter follows an evaluation of digital media as communication tools for health promotion in managed health care, as it has manifested throughout Chapters 1 to 7.

Chapter 8 Conclusions

8.1 Summary and evaluation

Health care as practised until recently has undergone a number of significant changes, mainly to ensure affordability and high quality of care. One of the most important mechanisms employed in these changes is managed health care (see 3.3). The purpose of managed health care regarding the client, patient or medical fund member is to:

- assist clients to remain as healthy as possible;
- get healthy again as quickly as possible after an illness; and
- obtain high quality, appropriate and affordable health care.

These aims can only be met through the greater participation and sharing of responsibility by the individual, and therefore health promotion becomes a requirement (see 3.1). Health promotion empowers individuals to increase their control over their own health, thereby improving their health. Health promotion depends *inter alia* on health communication to bring the message of health and well-being across.

The purpose of this research as explained in Chapter 1, was firstly to investigate the requirements of successful health communication for health promotion. As communication is a basic human function that can occur spontaneously, the success or failure of the communication cannot be guaranteed. Health communication, however, is a purposeful mode of communication and its success or failure can have a significant (even life threatening or saving) impact on a participant in the health interaction. It was therefore important to determine the factors that have an influence on the success of communication.

Secondly, research investigated the attributes of the digital media available today, in order to determine their suitability for health promotion.

Lastly, an effort was made to establish the contribution each of the digital media can make towards effective communication for health promotion. If the digital media could alleviate some of the problems of health communication, they would be suitable for health promotion.

In Chapter 2 the attributes of digital media are described in order to give an insight into the contribution these media might make towards successful health communication. In Chapter 6 this

proved a valuable component of the research because it was found that the inherent characteristics of digital media in themselves could contribute significantly to effective health communication.

Chapter 3 deals with health promotion in managed health care. In it the importance, trends and focus of health promotion are explained. This information sheds light on the development of various health models through time (see 5.6), which took place concomitantly with the trends in health promotion. In addition, an exposé is given of the local development and current South African position regarding managed health care. From this chapter, it becomes clear that managed health care needs health promotion in order to reach its goals.

As this research focused on digital media as communication tools, it was necessary to get a clear understanding of what communication is, how and when it is accomplished and how this is applied in digital communication. The report on this investigation appears in Chapter 4.

Health communication, however, takes place in a specific health care setting, between specific communicators and under specific circumstances, leading to specific requirements for effectiveness. In addition, health communication has specific characteristics. These aspects are discussed in Chapter 5.

By combining the information given in Chapters 1 to 5, it has been possible to identify the advantages and disadvantages of digital media as communication tools for health promotion. The result of this combination can be found in Chapter 6. The advantages and disadvantages arise from the characteristics of both digital and health communication. When the advantages are applied to communication originating from health care settings, as in Chapter 7, it becomes clear that digital media are well suited to health promotion, provided that the criteria for successful communication are met.

As can be seen, health promotion can be greatly enhanced by effective digital health communication. Although all communication cannot be replaced by digital communication, much can be gained by incorporating digital media in the communication aimed at health promotion. Supplementation with digital media could result in increased:
- user control;
- transfer of information and knowledge;

- learning, reinforcement and retention of messages;
- compliance to treatment;
- quality of treatment;
- customised information; and
- affordability.

The success of health communication can be improved by the utilisation of digital media, especially with regard to:

- compliance;
- feedback;
- communicating complete information;
- communicating culture- or language-specific information;
- giving support;
- overcoming time constraints;
- overcoming geographical constraints; and
- overcoming lack of communication skills and differences.

8.2 Future considerations

In many ways, the application of digital media in health care is lacking far behind other sectors, perhaps because until recently the medical profession, and therefore health care, was not seen as a business sector. However, managed health care has changed the situation. Today's health professionals are expected to see more patients, improve their quality of care and help to curb costs. To reach these objectives, health professionals have to utilise new technology.

In the near future, application of information technology for health promotion will have to be thoroughly researched, in order to take advantage of all the possibilities. Such research could focus on:

- health professionals' proficiency in the use and application of digital media for the purpose of health care delivery and health promotion;
- accessibility of digital media for health professionals and clients;
- availability and quality of ready-made digital health promotion tools;
- possible use of the latest technology, such as WAP, for health promotion;
- the effect of digital mass media on client behaviour

- a model for mass digital communication which allows a blurred demarcation between interpersonal and impersonal communication.

In conclusion, it can be said that digital communication can and should become an integral part of health promotion strategies. As access improves and expands, this tool will become the medium of choice for many health care consumers because of the added value provided by the inherent characteristics of digital media coupled with the suitability to health communication. Health communication, as the primary method of achieving health promotion, can only benefit from the responsible utilisation of digital media.

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