

# The Feasibility of Implementing Brief Motivational Interviewing in the Context of Tuberculosis Treatment in South Africa



Thesis presented in partial fulfillment of the requirements for the degree of  
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## STATEMENT

I, Sheldon Allen, hereby declare that the work contained in this thesis is my own original work, and that I have not previously in its entirety or in part submitted it at any university for a degree.

Signature :

Date: 1 December 2005

## Summary

This thesis explores the feasibility of implementing an approach called Brief Motivational Interviewing (BMI) in the context of tuberculosis (TB) treatment in South Africa. TB is a serious threat to global health and has not been controlled despite the fact that it is curable. Ever since effective drugs became available, continued spread of the disease has been understood as a problem of poor adherence to treatment. This narrow understanding of the epidemic has been broadened by psychological and social science perspectives among others. There has been much debate around the topic of adherence and the international TB control policy known as Directly Observed Treatment, Short-course (DOTS), as some suggest that it is an incomplete response to the challenge of improving adherence and controlling TB. The caring aspects of TB treatment seem to be neglected in TB policies and protocols, and some argue that this and the lack of attention to other systemic factors are responsible for poor programme performance. South Africa is an example of this, where the communication between nurses and TB patients has been described as authoritarian, nurse-centred and task-oriented.

A patient-centred approach (PCA) is a way of improving patient-provider communication and patient satisfaction, and some promote it as a way of improving treatment adherence and health outcomes. The challenge, however, is that the concept of ‘patient-centredness’ can be interpreted and implemented in a variety of ways. BMI is a PCA to communication that is designed to promote a spirit of collaboration and resolve people’s mixed feelings about behaviour change. An adaptation of Motivational Interviewing, BMI is a menu of concrete skills or tools that health providers can use in consultations about health behaviour change. BMI is based on theories about behaviour change and has been used to address a wide variety of health behaviours, including treatment adherence. Although seldom applied in less developed country settings and never before applied in TB, BMI has been successfully applied in other busy health care settings.

The design of the present study of the feasibility of BMI in the context of TB treatment in South Africa evolved within the design of a larger study that included other interventions designed for a PCA. The present study aims were to describe the context and what happened during the intervention period and to describe BMI’s feasibility. Using elements of participatory action research, BMI communication training was developed and implemented with TB staff based in four urban primary health care facilities. A grounded theory approach was used to describe the dynamics of the implementation process and generate a theory about what made BMI more or less feasible in this context. A multidisciplinary team contributed to the study design, BMI training and data gathering

process. Data were gathered largely through participant observation, focus groups and key informant interviews and generated volumes of diverse materials including field notes, training materials, video and audio-taped interactions. The data were analysed using the inductive approach to grounded theory analysis promoted by Glaser (1992) and relied on theoretical sampling and constant comparative analysis. The quality and trustworthiness of the data were ensured through an emphasis on researcher reflexivity and triangulation of the perspectives of different materials, participants and health facilities.

The study was implemented as a pilot BMI training process at one facility in Port Elizabeth (Eastern Cape Province) followed by expanded training targeting TB staff of three facilities in Cape Town (Western Cape Province). Data analysis resulted in a categorised description of the research settings, the interactions and relationships among patients, providers, managers and researchers, the BMI training interventions and the way participants responded to BMI during each phase of the process. Although seemingly similar at the outset, analysis began to show that dynamics of implementation at each facility were complex and multidimensional. The categories that were generated during each cycle of implementation were used to shape the categories selected for the next. Examining the categories across the four health facilities yielded a grounded theory with seven core categories regarding the role of: (1) the personal qualities of the TB staff involved, (2) the way staff moved in and out of the TB service, (3) the leadership, hierarchy and staff dynamics in the health facilities, (4) the pressurised working conditions of TB staff, (5) the poverty of patients, (6) mismatches between the TB programme's protocols and BMI, and (7) the capacity of staff to innovate and improve care.

These findings are discussed in terms of the way they respond to the study's research questions and the way the grounded theory categories relate to each other. Their significance is understood from a social constructivist perspective as bound within the context of the study. The findings are also compared to the theoretical perspectives included in the study design and new literature on the diffusion of innovations in service organisations. Inconsistencies between the grounded theory and the concepts behind the intervention design emerge. An overarching model on diffusion of innovations provides a helpful context in which the grounded theory of the feasibility of BMI could be positioned. Recommendations are made for future context-focused research and adherence-related intervention development. If interventions like BMI are to be implemented successfully in contexts such as those included in this thesis, policy-makers and managers need to consider the ways in which working conditions, policies and protocols and patient poverty may be counter-productive, and focus on the innovative potential of health staff and teams for delivering patient-centred care.

## Opsomming

Hierdie studie ondersoek die uitvoerbaarheid van die implementering van 'n benadering genaamd Kort Motiverende Onderhoud (KMO) in die konteks van die behandeling van tuberkulose (TB) in Suid-Afrika. TB is 'n ernstige bedreiging vir wêreldwye gesondheid en is nog nie onder beheer gebring nie, ten spyte van die feit dat dit geneesbaar is. Sedert die beskikbaarheid van effektiewe medisyne-middels, is die oorsaak vir die voortdurende verspreiding van die siekte gesien as 'n probleem van gebrekkige deurvoerbaarheid van die behandeling. Hierdie eng begrip van die epidemie is deur die psigologiese en sosiale wetenskappe, asook andere, verbreed. Daar is baie debatering oor en om die onderwerp van deurvoerbaarheid en die internasionale TB beheer beleid, bekend as Direkte Observerings-Behandeling, Kortkursus (DOBK). Sekere deskundiges argumenteer dat DOBK 'n onvoldoende respons is tot die uitdaging van die verbetering van deurvoerbaarheid en die kontroliering van TB. Dit skyn asof die meëlewende aspekte van die TB behandeling nagelaat word in die TB beleide en protokol en sommige beweer dat hierdie faktor sowel as gebrekkige aandag aan ander sistemiese faktore verantwoordelik is vir swak programuitvoering. Suid-Afrika is 'n voorbeeld hiervan, waar die kommunikasie tussen verpleegsters en TB pasiënte beskryf word as outoritêr, verpleegstergesentreerd en taakgeïntereerd.

'n Pasiëntgesentreerde benadering (PGB) is 'n wyse waarop die pasiëntversorger kommunikasie en die bevredigingsvlak van die pasiënt bevorder word en sommige promoveer dit as a wyse om die behandelingsdeurvoerbaarheid en genesingsuitkomst te verbeter. Die uitdaging is egter dat die konsep van 'pasiëntgesentreerdheid' op verskeidenheid van wyses geïnterpreteer en geïmplimiteer kan word. KMO is 'n PGB tot kommunikasie wat bestem is om 'n gees van samewerking te bevorder en om mense se gemengde gevoelens oor gedragsverandering by te lê. KMO as 'n aanpassing van Motiverende Onderhoudvoering, is 'n spyskaart van konkrete vaardighede of middels wat gesondheidsvoorsieners in onderhoude rakende geneeskundige gedragsverandering kan gebruik. KMO is gebaseer op teorieë oor gedragsverandering en word gebruik in 'n wye verskeidenheid van genesingsbehandeling, insluitende deurvoerbaarheidsbehandeling. Alhoewel dit selde in minder ontwikkelende lande toegepas is en nog nooit in TB, is KMO suksesvol toegepas in ander besige kontekste vir gesondheidsvoorsiening.

Die ontwerp van die huidige studie oor die lewensvatbaarheid van KMO in die konteks van TB behandeling in Suid-Afrika het ontstaan uit die ontwerp van 'n groter studie wat ander intervensies vir 'n PGB ingesluit het. Die doelstelling van die huidige studie was om die konteks te beskrywe en wat gebeur het gedurende die intervensie tydperk en om die uitvoerbaarheid van KMO te verduidelik.

KMO kommunikasie-opleiding was ontwikkel met die gebruik van elemente van deelnemende aksie navorsing en geïmplementeer deur TB personeel wat in vier stedelike primêre gesondheidsorgfasiliteite gebaseer was. 'n Grondteorie-benadering is gebruik om die dinamika van die implimenteringsproses te beskryf en om 'n teorie oor wat KMO in hierdie konteks meer of minder lewensvatbaar maak, te ontwikkel. 'n Multi-dissipline span het bygedra tot die ontwerp van hierdie studie, KMO opleiding en data-invorderingsproses. Data is hoofsaaklik ingevorder deur waarneming van deelnemers, fokusgroepe en sleutel-informante onderhoude wat groot hoeveelhede van diverse materiaal gegenereer het, insluitende veldnotas, opleidingsmateriaal, video en audio band interaksies. Die data is ontleed met gebruik van die induktiewe benadering tot grondteorie-analise soos deur Glaser (1992) daargestel met gebruik van teoretiese monsterversameling en konstante vergelykingsanalise. Die kwaliteit en geloofwaardigheid van die data is verseker deur die refleksiwiteit van die navorser en die driehoeksbenadering van die perspektiewe van die verskillende materiaal, deelnemers en gesondheidsfasiliteite.

Die studie is uitgevoer as 'n proef KMO opleidingsproses by een fasiliteit in Port Elizabeth (Oos-Kaapse Provinsie) en opgevolg met uitgebreide opleiding gemik op TB personeel by drie fasiliteite in Kaapstad (Wes-Kaapse Provinsie). Data analise het gelei tot 'n kategoriserende beskrywing van die navorsingsopset, die interaksies en verhoudinge tussen die pasiënte, versorgers, bestuurders en navorsers, die KMO opleiding-intervensies en die wyse waarop die deelnemers gereageer het op KMO gedurende elke fase van die proses. Al het analise aanvanklik oënskynlik eenderse resultate getoon, het dit later getoon dat die dinamika van implementering by elke fasiliteit meer kompleks en multi-dimensioneel was. Die kategorieë wat by elke siklus van implementering ontwikkel is, is gebruik om die kategorieë vir die daaropvolgende te vorm. Die ondersoek van die kategorieë oor die vier gesondheidsfasiliteite het 'n grondteorie daargestel vir die sewe kern kategorieë oor die rol van (1) die persoonlike kwaliteite van die betrokke TB personeel, (2) die wyse waarop die personeel in en uit die TB dienslewering beweeg het, (3) die leierskap, hierargie en personeeldinamika in die gesondheidsfasiliteite, (4) die drukspanningsomstandighede waarin die TB personeel gewerk het, (5) die armoede van pasiënte, (6) die verkeerde paring tussen die TB program se protocol en die KMO en (7) die vermoë van die personeel om innoverende en verbeterde sorg te lewer.

Hierdie bevindinge is bespreek in terme van hulle wyse van respons op die navorsingsvrae en die verhouding tussen grondteorie kategorieë. Die betekenisvolheid van die bevindinge is verstaan van 'n sosiaal-konstruktivistiese perspektief soos in die konteks van die studie gegrond. Die bevindinge word ook vergelyk met die teoretiese perspektiewe ingesluit in die onderwerp van diffusie van innoverings in diensgewende instansies. Sekere teenstrydighede tussen die grondteorie en die

konsepte agter die intervensie-ontwerp is onthul. Die oorkoepelende model van diffusie van innoverings voorsien 'n bruikbare konteks waarin die grondteorie van die uitvoerbaarheid van KMO kan staan. Voorstelle is gemaak vir toekomstige konteksgefokuste navorsing en intervensie-ontwikkeling vir deurvoerbaarheid. Indien intervensies soos KMO suksesvol geïmplementeer gaan word in die kontekse soos in hierdie tesis ingesluit, moet beleidmakers en bestuurders die wyse in ag neem waarop werksomstandighede, beleide en protokol en pasiëntarmoede teenproduktief mag wees. Die fokus moet wees op innoverende potensiaal van gesondheidspersoneel en spanne vir die voorsiening van pasiëntgesentreerde sorg.

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I appreciate the health facility staff and managers and the TB and HIV managers and directors in Port Elizabeth and Cape Town who work in difficult circumstances but were still prepared to get involved and share their ideas and experiences. I was inspired by the energy, creativity and tenacity of the innovators, improvement leaders and champions that I met, who are scattered throughout our health services.

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This thesis has also been influenced by the work of international collaborators on the AFDOT Project – Sally Theobald (Liverpool School of Tropical Medicine), Claudine Dauby and Jean Macq (Université Libre de Bruxelles), and Mathurin Dembele (Burkina Faso National TB Control Programme).

Chantelle, I love you for the space gave me to complete this. Thank you for the sacrifices you have made.



## Preface

This thesis formed part of the South African component of a larger international study which explored the applicability of patient-centred approaches in the context of Directly Observed Treatment for tuberculosis (TB) patients in sub-Saharan Africa. The larger research project, named 'AFDOT' (referring to Directly Observed Treatment in sub-Saharan Africa), developed in response to debates among TB policy-makers and researchers regarding the most effective ways of ensuring that patients complete their treatment and of controlling the epidemic. AFDOT was funded by the European Commission (contract ICA4-CT-2001-10011) and its international partners included:

- the Department of Health Systems and Politics, Université Libre de Bruxelles (the Free University of Brussels), Belgium;
- the International Health Research Group, Liverpool School of Tropical Medicine, United Kingdom; and
- the National Tuberculosis Programme, Burkina Faso.

The South African AFDOT project was implemented by the Health Systems Research Unit of the Medical Research Council during 2002, 2003 and 2004. Its principal investigator, Dr Judy Dick, is a leader in a body of work which aims to identify the most effective strategies for improving the quality of TB care and treatment adherence. The South African AFDOT project contributed to this work by exploring the development and feasibility of interventions designed to improve the quality of interactions between health workers and TB patients. Its multifaceted intervention design included a photo-novella (intended to help educate and guide TB patients through their treatment journey), a prepacked medication system (designed to improve drug supply management, give patients a sense of their progress through their treatment, and create more opportunities for health workers to talk to their patients), and health worker training in an approach to communicating with patients about health behaviour change called Brief Motivational Interviewing (BMI).

This thesis focuses exclusively on the BMI component and the process of trying to introduce this into a context of TB treatment in South Africa. It seeks to address questions about the feasibility of implementing such an approach in this context and describes what happened during the initiative. At the start of the study there was no literature indicating that BMI could be implemented in the South African context or in the context of TB treatment. Similarly, the process and dynamics of implementing quality improvement initiatives for TB treatment were poorly described. Some of these gaps in the body of knowledge about BMI and the process of introducing quality improvement initiatives in this environment are addressed in this thesis. It is likely to be of most interest to health policy makers, managers and educators – particularly in the fields of TB, HIV and other chronic conditions.

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## Acronyms and abbreviations

AFDOT	An African study exploring ways of improving care within the context of Directly Observed Treatment for tuberculosis
AIDS	Acquired Immunodeficiency Syndrome
BMI	Brief Motivational Interviewing
DOT	Directly Observed Treatment
DOTS	Directly Observed Treatment, Short-course
HIV	Human immunodeficiency virus
IUATLD	International Union Against Tuberculosis and Lung Disease
MDR TB	Multidrug resistant tuberculosis
MI	Motivational Interviewing
MRC	Medical Research Council
PCA	Patient-Centred Approach
PHC	Primary Health Care
STI	Sexually Transmitted Infection
TB	Tuberculosis
WHO	World Health Organization

## Chapter 1: Context and Literature Review

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*The present study explores the feasibility of implementing a health facility-based intervention intended to improve the quality of care for people with tuberculosis in South Africa. This chapter describes the academic and policy context in which the study is rooted. It begins by discussing tuberculosis, the challenges the disease poses to public health and the factors believed to promote its spread. International tuberculosis control policy and some of the controversies surrounding it are described. This expands into a review of the issue of adherence to treatment and the way it is understood and addressed in health care and research, both internationally and in the South African context. Adherence strategies and recommendations for interventions and research designs are discussed, as the thinking behind the intervention and study design begins to emerge. Where possible, this review of the literature on tuberculosis and treatment adherence is illustrated using South African examples.*

### 1.1 Understanding tuberculosis

#### 1.1.1 *The threat of tuberculosis*

The “white plague”, “consumption” and “phthisis” (meaning “to waste away”) are terms that have been used in the past to describe the disease we call tuberculosis (TB) today (Whalen & Semba, 2001). Evidence discovered in Egypt indicates that TB dates back as far as 3400 BC (Metcalf, 1991). This infectious disease has been spread century after century, and continues its spread today despite significant advances in TB prevention and treatment (Benatar, 1991). Presently, about 2 million people die from TB every year (WHO, 2002g).

In contrast to diseases like the plague, smallpox and cholera, TB has not been met with dramatic public concern — yet it has caused more deaths than these and can be considered to be the single most prevalent and widespread disease over such an extensive period of time (Metcalf, 1991). The TB epidemic poses an enormous health threat, and this is what led the World Health Organization (WHO) to take the unprecedented step of declaring TB a global emergency in 1993 (WHO, 2002g). It is now estimated that every second, a new person is infected with TB for the first time (WHO, 2002g).

From a biomedical point of view, TB is an infection with *Mycobacterium tuberculosis*. This bacterium is spread from person to person by droplet infection, much like the common cold. When an infectious person coughs, sneezes, talks or spits, the TB bacilli are distributed into the air. Inhaling even a small number of these germs can result in an infection (WHO, 2002g). This infection occurs mainly in the

lungs, but can also affect other organs (GlaxoSmithKline, 2001). People are only infectious if they have the pulmonary form of the disease and are showing symptoms (WHO, 2002g).

Initially an infected person may experience loss of appetite, weight loss, tiredness and a persistent cough. Other signs and symptoms that may occur include breathlessness, chest pains, coughing up blood and night sweats. If the diseased person receives no treatment, they may ultimately develop bronchopneumonia and die due to exhaustion and lung failure (GlaxoSmithKline, 2001).

Left untreated, each person with active TB will infect on average between 10 and 15 people each year (WHO, 2002g). However, people who are infected with TB will not necessarily get sick with the disease. A healthy immune system can isolate the TB bacilli by creating a protective waxy coat around them. The TB bacilli can lie dormant for years, provided a person's immune system is not compromised by factors such as malnutrition or human immunodeficiency virus (HIV) (Whalen & Semba, 2001).

### *1.1.2 The epidemiology of TB*

Currently it is estimated that a third of the world's population is carrying TB bacilli (WHO, 2002g). Between 5% and 10% (excluding those infected with HIV) become sick with TB and risk infecting others at some point in their lives (WHO, 2002g). Globally, the number of infections and deaths are increasing each year.

However, TB has affected not all regions and countries equally. From the early 1600s TB incidence began to increase in Western Europe and spread with European migration to other parts of the world (Saraiya & Binkin, 2000). Today TB is rare in these regions that once had a high prevalence (Saraiya & Binkin, 2000). The epidemic is most acute in low-income countries, where 95% of cases are found (GlaxoSmithKline, 2001). The WHO South-East Asia Region carries the greatest TB burden, with more than 3 million cases being reported in 2003, while the Africa Region has the highest incidence (WHO, 2005b). The number of TB cases has continued to rise in the Africa Region since 1990, while trends in other WHO regions are stable or declining. This prompted the WHO's 2005 declaration that TB is an emergency in Africa (WHO, 2005c).

There are 22 high-burden countries that account for about 80% of all new TB cases worldwide. South Africa was ranked 8<sup>th</sup> among these high-burden countries in 2005, with an estimated TB incidence of 536 new cases per 100 000 in the population for the year 2003 (WHO, 2005b). This is one of the highest rates in the world.



TB also affects people differently according to their socio-economic status, gender and age. There is a higher TB prevalence among socio-economically poor and vulnerable groups (Nhlema, Kemp, Theobald, Tang, & Squire, 2003). These groups also tend to have worse outcomes of the disease, such as poorer treatment completion and higher mortality (WHO, 2005a). In terms of gender, 1.7 times more cases of pulmonary TB are reported in males than in females (Nhlema et al., 2003). It is largely the economically active age groups that are affected. In South Africa, for example, 86.6% of the TB patients reported in 1999 were 20-59 years of age (Kironde, 2000). Having said this, TB is not exclusively a disease of the poor. A discussion of the complex factors accelerating the spread of the disease follows.

### *1.1.3 Complex factors accelerating spread*

The TB epidemic has continued to grow, although effective medication for treating TB has been available for more than 50 years. Health providers have largely attributed the current spread to poor patient adherence to treatment, while others take a broader view by looking at the way that factors such as migration, HIV and poorly managed health care services contribute to the rise in TB (WHO, 2002g). There is a growing recognition that TB's accelerated spread in recent times cannot simply be explained by biological factors, but rather as a dynamic interaction between these and social, cultural, political and economic factors as well (Gandy & Zumla, 2002).

### **The challenge of patient adherence to TB treatment**

Over the last half of the 21<sup>st</sup> century poor adherence to TB drug treatment has been thought to be primarily responsible for the lack of progress against the epidemic (Lerner, 1997). Since a medical cure became available in the 1950s, the expectation has been that all that was needed to eliminate the disease was for patients take their treatment as they were told.

Adherence is essential if TB treatment is to be successful, but it presents particular challenges to both patients and health providers (Dick, 1994). The treatment process for this disease is long and involves 6-8 months of taking large amounts of drugs on a daily basis for 3-5 days a week (Grange & Festenstein, 1993). The range of recommended drugs includes isoniazid, rifampicin, pyrazinimide, streptomycin, ethambutol and thioacetazone, and can have a range of unpleasant side-effects, such as rashes, stomach pain, hepatitis, nausea, deafness and visual impairment (WHO, 1997). After two months of treatment patients begin to feel well again and tend to stop taking their treatment (Sumartojo, 1993). In the view of health providers in Cape Town, this non-adherence is still the greatest barrier to progress in TB control (Dick, 1994). The issue of adherence is discussed in greater depth later in this chapter.

### **Development of multidrug resistance**

Poor adherence to treatment is commonly thought to be responsible for the development of forms of TB that are resistant to some of the available TB medications. A person can develop multidrug resistant (MDR) TB if they repeatedly fail to complete their treatment or are initially exposed to someone else with an MDR strain of the disease (GlaxoSmithKline, 2001). The many patients who interrupt or do not complete their treatment are not completely cured of TB, and as a result the latent disease is reactivated and they have to begin their treatment process again. This repeated treatment failure is also believed to be caused by poor management of TB services and drug supplies (Gandy & Zumla, 2002). In this way, MDR strains of TB develop.

However, one South African study has questioned the assumption that MDR TB strains are developed and spread by poor adherence and repeated reactivation of latent TB (Warren et al., 1996). Instead, they postulate that re-infection with diverse new strains of TB may be largely responsible for redeveloping active TB and the spread of drug resistance in areas where the TB burden is high (Warren et al., 1996).

Whichever way it is developed and spread, MDR TB accounts for about 1 in every 10 new TB cases and is more complicated to address (Gandy & Zumla, 2002). Treating resistant TB strains is a longer treatment process with additional drugs which are more toxic and less effective than standard TB treatment (Gandy & Zumla, 2002). This makes the treatment more demanding for patients and more costly for treatment programmes (Gandy & Zumla, 2002). This phenomenon of MDR TB, which may be more complex and dynamic than originally thought, has helped the epidemic to spread more rapidly and threatens to make TB incurable in the future.

### **The interaction between TB and HIV**

HIV and AIDS have advanced the spread of TB, particularly over the last decade. HIV/AIDS is estimated to have contributed to 8-10% of the world's TB cases and 20% of Africa's TB cases. HIV weakens a person's immune system and so increases the risk of developing TB. A healthy person with a latent infection stands a 10% chance of developing active TB throughout their lifetime, while an HIV-infected person stands a 10% chance per year of developing active TB (GlaxoSmithKline, 2001).

HIV and TB combine to weaken a person's immune system and accelerate the progression of both diseases. On the one hand, TB is now considered to be the biggest killer of people living with HIV/AIDS (WHO, 2001c). On the other, HIV has been the single most important factor

accelerating the dissemination of TB in Africa over the last 10 years, according to the WHO (WHO, 2001c). Sub-Saharan Africa has an estimated 2 million TB cases per year and 24.5 million people living with HIV/AIDS, and has one of the most rapidly growing number of TB cases due to the HIV/AIDS epidemic (Anderson & Maher, 2001; WHO, 2002g). This is particularly influential in the Southern Africa Development Community, which contains some of the countries worst affected by both TB and HIV (Kironde, 2000).

In South Africa it is estimated that 60% of adult (15 - 49 years) TB cases in South Africa are HIV-positive (WHO, 2002h). This amounts to an estimated co-infection rate of 2540 per 100 000 in South Africa (Kironde, 2000). As in several other countries in sub-Saharan Africa, TB and HIV are becoming closely linked in people's perceptions due the high rates of co-infection and the fact that they affect similar demographic groups (National Tuberculosis Control Programme of South Africa, 2001). This association with HIV may have heightened the stigma attached to TB (Gandy & Zumla, 2002).

Together with poor patient adherence, the introduction of HIV and development of MDR TB are the most frequent explanations used in biomedical literature to account for the resurgence of TB (Farmer, 1997). The focus on adherence, HIV and multidrug resistance as an explanation for the "new tuberculosis" is only part of the picture, according to some authors (Farmer, 1997; Gandy & Zumla, 2002).

### **Poverty, inequality, racism and socio-economic policy**

There is a strong relationship between poverty and almost every disease (Adler, Boyce, Chesney, Folkman, & Syme, 1993; WHO, 2001a). The poor and marginalised of the world's population form the largest group of people affected by TB (Farmer, 1999). The way that TB has been distributed demonstrates its close association with shifts in the political and economic interests of societies (Packard, 1989). In recent times economic policy has been restructured towards more market-orientated approaches, and this has helped to marginalise the poor even further (Gandy & Zumla, 2002). This leaves poor people exposed to unhealthy working and living conditions and disproportionately affected by TB (Packard, 1991). Poverty therefore increases the chances of becoming infected with TB and developing the disease, while limiting the likelihood that medical treatment will be accessed and utilised successfully (Farmer, 1997).

In South Africa poverty and TB have impacted unequally, along racial lines. This has been linked to the type of racial capitalism legislated during the apartheid era, and this inequality is still felt today

(Farmer, 1997). The result is that disadvantaged groups, particularly black workers, have been hardest hit by the “white plague” (Packard, 1991). Periods of economic recession during the last century created a shortage of employment (Metcalf, 1991). This also contributed to the development of overcrowded peri-urban slums with deteriorating living conditions (Metcalf, 1991). Macro-political and -economic forces such as these have led to unemployment, urban housing shortages, poor education, famine and malnutrition (Wilson & Ramphela, 1989). These conditions of poverty and disadvantage have provided fertile soil for the growth of the TB epidemic (Packard, 1991).

There are still disparities in the TB incidence and mortality rates of different racial groups in South Africa today, perhaps because these racial/economic inequalities have not changed significantly (Metcalf, 1991). The influence of widening social and economic inequalities is also evident in high-income countries (Gandy & Zumla, 2002). Some social scientists argue that these forces are the central factors in the recent accelerated spread of TB (Farmer, 1997). Poverty is said to be the one thing that the vast majority of people with TB have in common (Farmer, 1997).

### **Migration, colonisation, industrial capitalism, globalisation and conflict**

Migration is another force that has promoted the spread of TB throughout history (Metcalf, 1991). Urbanisation, economic instability, industrialisation and colonisation together with civil unrest, war and natural disasters have increased migration and displacement (Gandy & Zumla, 2002). South Africa has been a good illustration of the contribution of these factors.

Here, the spread of TB can be traced back to European colonisation. TB was unknown to Southern Africa prior to this era, but was reportedly rife among European colonists by the late 1700s (Metcalf, 1991). The spread of the disease among the various groups of people native to South Africa seemed to be closely linked to how much contact they had with European settlers (Metcalf, 1991). From the 1830s South African towns were marketed in Europe and North America as health resorts for those suffering from TB (Metcalf, 1991). The warm, dry climate and high altitude were believed to have a therapeutic effect, and this encouraged TB-infected people to relocate to these resorts and indirectly contributed to the spread of the disease in these areas (Metcalf, 1991).

The development of the mining industry and an extensive migrant labour system from the late 1800s also contributed to the distribution of TB throughout Southern Africa (Metcalf, 1991). Growth of the mining industry and World War I created a demand for labour, attracting people to urban centres (Metcalf, 1991). Droughts, livestock epidemics and the Anglo-Boer War pushed people away from rural areas (Metcalf, 1991). However, mine workers who developed TB were commonly fired and

sent back to the rural areas (Metcalf, 1991). This helped to create a breeding ground for TB in urban areas, from where it was exported to the rural areas. Today movement among migrant labourers between urban and rural areas is common and more frequent.

From a global perspective, factors such as urbanisation and overcrowding that historically helped TB to spread in Europe are fuelling the epidemic in low-income countries today (Saraiya & Binkin, 2000). Yet the current patterns of urbanisation are vastly different from those earlier times (Gandy & Zumla, 2002). Global travel and trade have also increased dramatically in the last half of the 21st century (WHO, 2002g). People are far more mobile than ever before, moving between countries to seek refuge from civil unrest, political asylum or employment, or to study, for example. Migration makes accessing health care and adhering to long-term treatment particularly difficult (Saraiya & Binkin, 2000). These migrant populations tend to have higher rates of infection and spread TB as they move (WHO, 2002g). This has increased anxiety about foreign-born people, and seems to contribute to xenophobia (Davis, 2000).

### **Social stigma, gender and culture**

The social, psychological and anthropological perspectives are notably scarce in TB literature and policy. Biomedicine and epidemiology still seem to carry the most weight in this field, and many are arguing that other approaches have an equally important contribution to make (Farmer, 1996). The disease has been associated with poverty, migration and criminality for centuries, and yet electronic database searches find that 0.1% of articles that mention “tuberculosis” also mention “stigma” (Macq, Solis, Ibarra, Dauby, & Dujardin). Studies have tended to focus on gender, ethnicity, belief systems and antisocial behaviour as determinants of health-seeking behaviour and adherence to treatment (Meulemans et al., 2002). These debates and explanations are to be discussed in more detail later in this chapter.

### **Health care reform, access and management**

Finally, the health care system has played a significant role in the spread of the disease and the development of multidrug resistance. Limited access to care and poor management of health services are often believed to be responsible. Public health spending has declined, particularly for TB relative to other diseases (Gandy & Zumla, 2002). Dubbed ‘the forgotten plague’, some argue that it was neglected as wealthy people and nations began to feel less affected by the disease (Farmer, 1999). The poor and worst affected are often the last to benefit from medical progress – almost half of the world’s TB population has gone undetected because they do not have access to medical treatment (Farmer, 1997).

In South Africa the wealthiest 20% of the population receives health care from the private health care sector, which receives 60% of money spent on health care in the country and utilises 70% of the doctors (Cummins, 2002). Patients have expressed dissatisfaction about inconvenient service hours and waiting times, difficulties with health providers and insufficient explanation of their condition (Chemtob, Weiser, Yitzhak, & Weiler-Ravell, 2000). Poor management has meant that at times incorrect treatment is given, which from a public health perspective is worse than no treatment (WHO, 2002g). Also, in many facilities drug supplies are unreliable and services are difficult for patients to access (WHO, 2002g).

## 1.2 Controlling the disease

People have not been able to control the spread of TB despite the contributions of some of the world's most intelligent and imaginative people (Davis, 2000). This continues to challenge the resources of countries and international agencies. If no improvements are made in controlling the disease, the WHO estimates that between the years 2002 and 2020 (WHO, 2002g):

- 1000 million people will be newly infected with TB;
- 150 million people will get sick from TB; and
- 36 million will die from TB.

### 1.2.1 *Milestones in TB control*

The progress in TB control over last 150 years has, however, been significant. Understanding of the nature of the disease and how it is transmitted improved, particularly since discovery and isolation of the bacillus responsible for TB by Robert Koch in 1882 (WHO, 2001e). This milestone was followed by the development of new ways of detecting, treating and preventing TB in the early 1900s (Davis, 2000). Public health campaigns and international organisations such as the WHO and the International Union Against Tuberculosis and Lung Disease have emerged as key role-players in the effort to prevent the spread of the disease (Davis, 2000). The introduction of antituberculosis drugs in the 1950s was followed by a sharp decline in TB mortality rates, but incidence rates continued to increase (Metcalf, 1991).

In the 1970s further progress in drug development made shorter, more convenient treatment possible (Gandy & Zumla, 2002). This allowed TB case management strategies to advance (Enarson, 2000). The work of public health clinicians and pioneers such as Styblo resulted in the development

of the global TB control strategy known today as 'DOTS' – Directly Observed Treatment, Short-course. This promising strategy was rapidly packaged and marketed as the best way to control TB (Hopewell, 2002; WHO, 2000). Widespread international implementation and expansion of the DOTS strategy took place during the 1990s. This was reinforced by the 2000 commitment to increased action from the health and finance ministers of 20 high TB burden countries (Hopewell, 2002). By 2003, 182 countries were reportedly implementing DOTS policy (WHO, 2005b).

### *1.2.2 Global TB strategy*

DOTS represents the WHO's most ambitious attempt to control and eliminate TB in the human population (Enarson, 2000). The strategy focuses on high-risk areas or groups. These include people with the infectious pulmonary form of the disease, people from low-income countries where prevalence is high, and immigrant and foreign-born populations in high-income countries where prevalence is low (Saraiya & Binkin, 2000). A combination of clinical and management interventions has been gathered with the priority of detecting, isolating and treating the infectious form of the disease (Davis, 2000).

DOTS consists of five elements: (1) a political commitment to sustained TB control, (2) early case detection and diagnosis by sputum-smear microscopy services, (3) the use of effective TB regimens with Direct Observation of Treatment (DOT), (4) regular, uninterrupted TB drug supplies, and (5) standardised record-keeping systems (WHO, 1999). Extensive national guidelines and policies have been developed to support the implementation of DOTS (WHO, 1998). These five elements have also been reinforced in response to multidrug resistance and HIV/AIDS (WHO, 2002b; WHO, 2002f). Community involvement in DOT is also emerging as a valuable part of a successful TB programme (WHO, 2001b; WHO, 2002a; WHO, 2002c)

The WHO TB control targets for national TB programmes are to detect 70% of new smear-positive cases and successfully treat 85% of them. These targets were set for the year 2000, but were deferred to 2005 and included in the United Nations Millennium Development Goals when these targets were not achieved (WHO, 2005b). The other TB-specific Millennium Development Goals are to halt and begin to reverse the spread of the disease by 2015 and to halve TB prevalence and death rates between 1990 and 2015. However, Global DOTS programmes were achieving a 45% case detection rate for new smear-positive cases in 2003 and the successful treatment rate was 82% for all forms of the disease in 2002 (Dye, Watt, Bleed, Hosseini, & Ravigliione, 2005). The targets may be achievable in most regions except Africa and Eastern Europe.

### 1.2.3 *The South African context of TB treatment*

South Africa provides a useful illustration of some of the challenges involved in successfully achieving these targets. The National Tuberculosis Control Programme is one of the national priorities of the Department of Health. The South African Department of Health adopted the DOTS strategy in 1996 and achieved DOTS status in 1997 (WHO, 2002h). The DOTS system was expanded to the point where it was reported to be implemented in 8 out of 10 clinics that were housed in permanent structures (Van Rensburg, Viljoen, Heunis, Janse van Rensburg, & Fourie, 2000). This covers 77% of the country and reached an estimated two-thirds of 257 per 100 000 smear-positive cases in 2000 (WHO, 2002h). In terms of performance, the programme detects a high rate of new smear-positive cases (118%<sup>1</sup> in 2003), but its case-holding is poor, with an overall treatment success rate of only 68% in 2002 (WHO, 2005b).

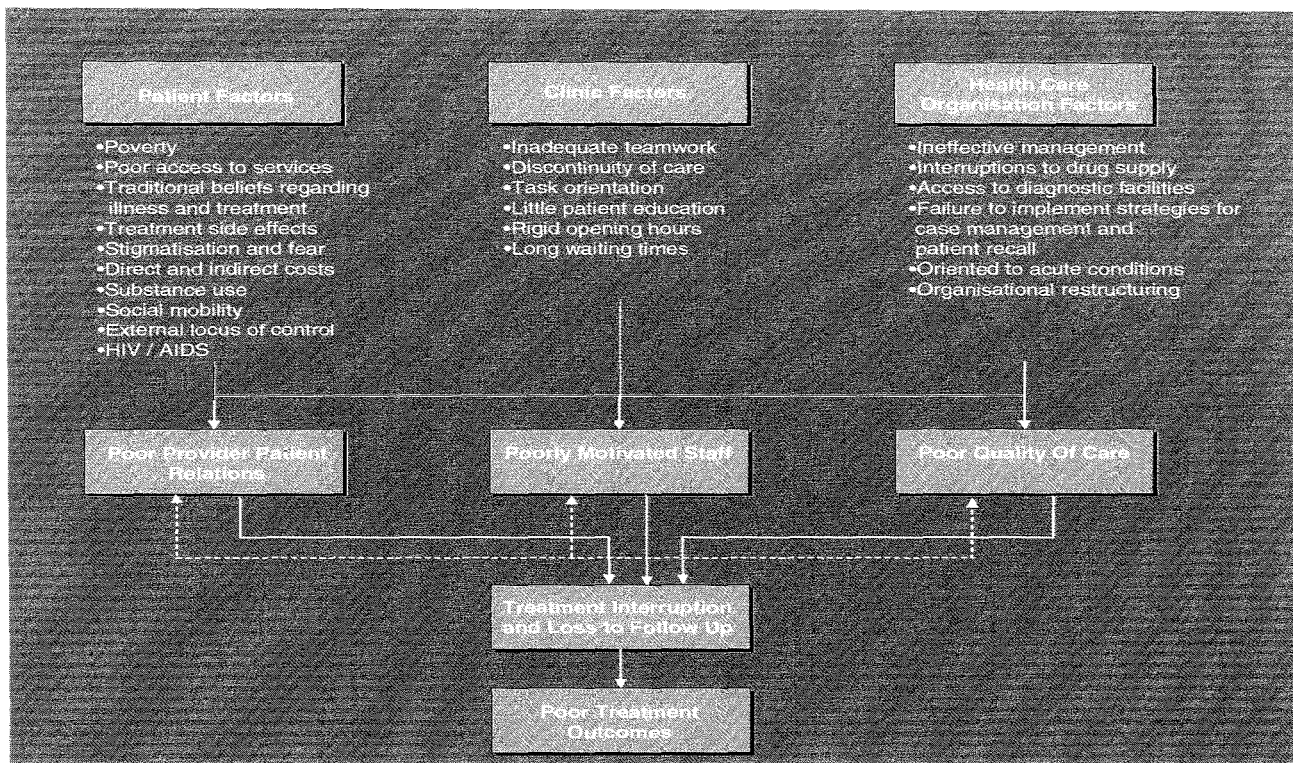
South Africa's national TB programme is essentially a vertical programme, incorporated into the country's decentralised PHC system. The district health care system is relatively well-resourced in comparison with many other countries in sub-Saharan Africa, but is not yet fully implemented. While recovering from health spending that discriminated along racial lines and reinforced poverty, health reforms have taken place in a context of reduced public finances for health services (Gilson & Mills, 1995). The TB programme is not functioning as it should in this context but is improving, and the reasons for its poor case-holding are not well understood, according to the WHO (WHO, 2005b). However, much work has been done to identify the factors behind the poor performance of the programme (Lewin et al., 2005). Authors have identified patient-related, health system-related and structural factors that combine to influence staff motivation, quality of care and patient-provider relations, and ultimately programme outcomes (Lewin et al., 2005).

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<sup>1</sup> This reported ratio of more than 100% is not uncommon and could be due to a backlog of chronic cases, over-reporting, over-diagnosis or low estimates of TB incidence.



**Figure 1.1** Factors associated with poor treatment outcomes in the South African TB Control Programme (Lewin et al., 2005).



Nurses form the backbone of PHC service delivery in South Africa. One of the weak areas identified in the programme is the quality of interaction between nurses and TB patients. Treatment is largely delivered in a task-orientated way that divides the care needed by an individual patient into a series of tasks which are to be completed by different nurses (Van der Walt & Swartz, 2002). Nurses' interaction with patients tends to be authoritarian and disease-focused and neglects the communication and caring aspects of TB treatment (Steyn, Van der Merwe, Dick, Borchers, & Wilding, 1997). Although much has changed in the health system and in nursing with the advent of democratic government in South Africa, the country's history of legislated racial discrimination is still thought to influence the way that nursing care is organised and delivered (Van der Walt, 1998).

#### **1.2.4 Key debates in TB policy**

Aspects of TB policy have been hotly debated in response to the global TB epidemic, the performance of the DOTS strategy, ethical issues and the circumstances of low- and middle-income countries such as South Africa.

Directly Observed Treatment (DOT) is perhaps the strategy that best defines DOTS and distinguishes it from policy responses to other diseases. It is also the most controversial component. DOT means giving one person the responsibility for supervising another person's treatment by

watching them take each dose and reporting this to the relevant TB services (WHO, 1999). This can be done by health providers, community volunteers, employers or any willing trained person who is acceptable to the patient and the TB programme concerned (WHO, 1999).

Opposing views in a polarised debate on DOT come from those who see it as an essential and effective strategy to improve adherence to treatment and those who contest this. Evidence of the effectiveness of DOT is still scarce (Kamolratanakul et al., 1999). Proponents of DOT have argued that the threat of multidrug resistance demands this type of radical approach to improve adherence. DOT as a part of DOTS, they say, is an effective and essential part of the solution (Chaulk & Kazadjian, 1998; Kamolratanakul et al., 1999; Stewart et al., 1995; WHO, 1997). This assertion is contested by others who point to a lack of evidence on DOT's effectiveness or efficiency in improving adherence and cure rates (Garner & Volmink, 2003). Specifically, two randomised control trials showed that DOT is no more effective than self-supervised treatment (Walley, Khan, Newel, & Hussain Khan, 2001; Zwarenstein, Schoeman, Vundule, Lombard, & Tatley, 1998), while one showed DOT to be more effective (Kamolratanakul et al., 1999). Nonetheless, the merits of DOT have been considered for ensuring adherence to antiretroviral treatment for HIV/AIDS (Bangsberg, Mundy, & Tulskey, 2001; Liechty & Bangsberg, 2003b).

From among those at the heart of the DOT debate there are suggestions of additional factors that could improve adherence with or without DOT. A greater emphasis on caring (Uplekar, Walley, & Newel, 1999) and attention to patients' perspectives and preferences in the design and delivery of care are suggested (Lienhardt, Rowley, & Manneh, 1999; Miller & Rollnick, 2002b). It has also been proposed that a degree of local flexibility should be allowed within DOT (Uplekar et al., 1999). An example of this is the existing variations in the frequency of TB treatment (Lienhardt et al., 1999). Some feel it is the health system management and implementation that is more important (Frieden, 1999; Frieden, 1999; Kochi, 1999), such as the rapid follow-up of patients when they default or interrupt treatment (Kochi, 1999).

Others suggest that there is, indeed, more to TB control than DOT and DOTS (Harries, Salaniponi, & Kwanjana, 1999). It is acknowledged that there is no simple solution to the complex problem of adherence to TB treatment (Zwarenstein, 1999). An extensive review of strategies to improve adherence highlighted the need to move away from simplistic interpretation and to put DOT within a more complex set of interventions and contexts. If this is the case, the whole package of interventions and the local context in which they are being applied may be more important than the sum of the individual interventions (Sumartojo, 1993; Volmink, Matchaba, & Garner, 2000).

The controversy around DOTS and DOT is not only about its effectiveness; it raises issues of ethics and public health interests. Proponents of DOT have justified it as the only option in the fight to control this infectious disease, citing the importance of society's right to protect itself from the acute threat of TB. Others refute this argument, suggesting that DOT is unethical, going against a patient's right to choose (Grange & Festenstein, 1993; Porter & Ogden, 1997; Porter, Ogden, & Pronyk, 1999). TB is also classified as a chronic condition, where policies tend to emphasise the individual's rights and care. Guidelines on chronic care tend to emphasise patient self-regulation and autonomy, long-term and context-based approaches to care and building the quality of partnerships between patients and health providers (Clark & Gong, 2000; WHO, 2001d; WHO, 2002e). Despite this, TB policy is still more focused on controlling disease rather than on caring for individuals.

*This thesis was based on the idea that there should be more balance between the rights of society and the rights of individuals in TB policy and practice. It suggests that the quality of care may be the new priority in TB policy rather than the effectiveness of medication in controlling the disease.*

### 1.3 Perspectives on patient adherence to treatment

Discussions of TB and TB control cannot take place without reference to the wider debates regarding adherence to treatment. TB regimens are widely understood to be among the most effective treatments available for any disease - when taken correctly.

#### 1.3.1 Value of professional health advice

The issue of patients not following professional health advice is a worldwide challenge for health care. There is a growing number of drugs that have been shown to significantly improve health if taken as recommended (Vermeire, Hearnshaw, Van Royen, & Denekens, 2001), but according to the WHO only about 50% of professional health advice is actually taken up by patients (WHO, 2001a). Other authors have estimated that the proportion of patients that do not follow doctors' orders ranges from 20% to 80% (Jaret, 2001).

Poor adherence behaviour has a wide-ranging impact. From a public health perspective it often adds to the burden of disease and the pool of infection. In the case of non-adherence to TB treatment, it is believed to have led to multidrug resistance. This also increases the financial burden placed on public health services and wastes resources (Cleemput & Kesteloot, 2002). For health providers it is a

source of major frustration and can consume a great deal of time and energy (Vermeire et al., 2001). It also impacts negatively on patients' health (Jarboe, 2002) and perhaps also their well-being, particularly patients with long-term illnesses (Cleemput & Kesteloot, 2002). From a research point of view, poor adherence makes clinical trials more difficult and costly to administer and the trial results become less meaningful (Ellis, Schumaker, Sieber, Rand, & the Pharmacological Intervention Working Group, 2000).

### 1.3.2 *The discourse of advice giving*

Doctors' concern over the issue of adherence has been traced as far back as Hippocrates, who wrote: "the physician should keep aware of the fact that patients often lie when they state that they have taken certain medicines" (Haynes, 1979, p.2). Historically, these types of anxieties picked up momentum as medical knowledge about the aetiology of diseases developed and doctors began to gain access to a wider range of pharmaceuticals (Lerner, 1997). TB is a prime example of a disease where medical knowledge and treatments developed rapidly in the 20th century. Despite this progress in biomedicine, patients have often chosen not to follow doctors' orders.

Over time a number of different terms, descriptions and definitions for this type of behaviour have emerged. Medical literature from the early 1900s used words such as "dependent", "dissipated", "careless", "irresponsible", "incorrigible" and even "vicious" to characterise TB patients who did not cooperate with medical authorities (Lerner, 1997). Virtually all the terms that have been used have had some negative connotations, implying that patients should be submissive and obedient (Steiner & Earnest, 2000).

The most well-known term describing the behaviour desired by health professionals is "compliance". This term was popularised by researchers in the early 1970s, most notably by Haynes and Sackett (Lerner, 1997). Haynes defined compliance as "the extent to which a person's behavior (in terms of taking medications, following diets, or executing lifestyle changes) coincides with medical or health advice" (Haynes, 1979, pp. 1-2). This term was used in an attempt to counter judgemental attitudes that professionals have had towards patients. Although the term "compliance" and the research around the issue constituted a significant improvement, it has subsequently been criticised for still being too paternalistic (Lerner, 1997).

"Adherence" is a more recent term that has been used interchangeably with "compliance" (Haynes, 1979). It has been emphasised that "adherence" refers to a wide range of health behaviours and is not just about patients taking prescribed drugs (WHO, 2001a). The switch to this term was also

intended to introduce a different way of looking at the relationship between health practitioners and their patients – with patients being seen as more autonomous, intelligent and active (Lutfey & Wishner, 1999). This implies more patient involvement in decision-making about their health (Brawley & Culos-Reed, 2000).

This shift in thinking about the patient-professional relationship has been taken a step further with the introduction of the most recent term – “concordance”. This refers to a negotiated agreement between a particular health professional and patient that values the patient’s perspective regarding whether, when and how medication is taken (Concordance co-ordinating group, 2000). This latest change aims to emphasise a more collaborative approach to consultations about taking medication. The term is now included in the vocabulary of TB policy-makers (Maher, Uplekar, Blanc, & Raviglione, 2003), but one wonders if this will represent a significant shift in policy and practice or if it is only used to be politically correct.

“Careless”, “non-compliant”, “non-adherent” or “non-concordant” – there are many terms which are widely used but not well-defined (Vermeire et al., 2001) and are used in many different ways (Lutfey & Wishner, 1999). They cover an extremely wide range of intended and unintended behaviours (Fogarty, 1997), but largely focus on patients’ behaviour – medicine-taking behaviour in particular. The basic assumption is that following professional advice is in the patient’s best interests and that if the patient is behaving rationally, they will follow the recommendations carefully (Vermeire et al., 2001).

Many have been dissatisfied with these terms and the rationale and implications behind them. This will be discussed further later in this chapter. For the purposes of this thesis, the term “adherence” is used because it seems to be the most commonly used, accepted and understood. It will be used to refer to more than just medicine-taking and to include the wide range of health behaviours that health professionals recommend to their patients and believe to be of benefit. To put it simply, adherence discourse is about patients doing (or not doing) what professionals want them to do (Jaret, 2001).

### *1.3.3 Contrasting viewpoints on adherence*

The challenging topic of adherence is said to be one of the least understood and most guessed about in health care (Haynes, 1979). An extensive body of literature on compliance has emerged since the first major wave of research in the early 1970s (Vermeire et al., 2001). In this literature a number of diverse perspectives have developed. Wide-ranging ways of understanding adherence can be placed

along a continuum. Despite this diversity, two different schools of thought have developed around the issue in what has tended to be a polarised debate. For the purposes of this thesis, two poles of thought will be characterised according to their differences – coming from medical scientists on the one hand and social scientists on the other. Each way of thinking tends to have characteristic targets, research aims, interest areas, methodologies and results, as represented in Table 1.1.

**Table 1.1 A polarised characterisation of the way adherence has been understood.**

Perspective	Biomedicine ←	→ Social science
<i>Source</i>	<ul style="list-style-type: none"> <li>• Health providers</li> <li>• Epidemiologists</li> <li>• Clinical trialists</li> <li>• Pharmaceutical industry</li> </ul>	<ul style="list-style-type: none"> <li>• Psychologists</li> <li>• Sociologists</li> <li>• Anthropologists</li> <li>• Patient advocates</li> </ul>
<i>Target</i>	<ul style="list-style-type: none"> <li>• Patients</li> </ul>	<ul style="list-style-type: none"> <li>• Health providers; social systems</li> </ul>
<i>Aims</i>	<ul style="list-style-type: none"> <li>• Predicting adherence behaviour</li> <li>• Strategies for increasing adherence</li> </ul>	<ul style="list-style-type: none"> <li>• Understanding the complexities of adherence</li> <li>• Challenging commonly held views</li> </ul>
<i>Interests</i>	<ul style="list-style-type: none"> <li>• Individual patient characteristics</li> <li>• Drug regimens</li> <li>• Socio-behavioural determinants</li> </ul>	<ul style="list-style-type: none"> <li>• Power dynamics; inequalities; poverty</li> <li>• Complex theoretical relationships</li> <li>• Factors influencing health service delivery</li> <li>• Patient perspectives</li> </ul>
<i>Approach</i>	<ul style="list-style-type: none"> <li>• Pragmatic, technological; physiological</li> <li>• Individualistic; biomedical; psychological; behaviourist</li> <li>• Universalist; totalising; summarising; indiscriminate</li> </ul>	<ul style="list-style-type: none"> <li>• Critical</li> <li>• Contextual; sociocultural; holistic</li> <li>• Multiplicity</li> </ul>
<i>Methods</i>	<ul style="list-style-type: none"> <li>• Quantitative</li> <li>• Epidemiological</li> <li>• Cross-sectional</li> </ul>	<ul style="list-style-type: none"> <li>• Qualitative</li> <li>• Ethnographic</li> <li>• Theory-based</li> </ul>
<i>Results</i>	<ul style="list-style-type: none"> <li>• Broad understanding of adherence</li> <li>• Practical strategies for increasing adherence</li> <li>• No clear variables influencing compliance</li> </ul>	<ul style="list-style-type: none"> <li>• Deep understanding of adherence</li> <li>• Some useful theories</li> <li>• Little or no practical strategies</li> </ul>
<i>Criticisms</i>	<ul style="list-style-type: none"> <li>• Reductionism</li> <li>• Lack of reflexivity</li> <li>• Too focused on patients and problems</li> <li>• Biomedical individualism (Gandy &amp; Zumla, 2002))</li> <li>• False assumption of moral neutrality</li> </ul>	<ul style="list-style-type: none"> <li>• Contribution of little practical value</li> </ul>

## Biomedical perspectives

To date, most research on the topic has been produced by health providers and the pharmaceutical industry (Vermeire et al., 2001). As a result, the main aim of studying compliance has been to increase it (Kutner, 2001). Moral responsibilities and legal obligations towards patients and society are commonly cited as the prevailing motivations behind this aim (Sbarbaro, 1979). This is clearly the case in TB, where there is a strong emphasis on controlling this infectious disease and it is spoken about as an acute emergency. Efforts have been directed towards ways of predicting adherence or non-adherence and identifying ‘magic bullet’ strategies for increasing adherence.

In attempting to understand adherence, people from this school of thought have tended to focus on three main questions (Vermeire et al., 2001):

1. What is the extent of poor compliance?
2. What are the causes of poor compliance?
3. What strategies can be employed to enhance compliance?

In responding to these questions, most studies have targeted patients and focused on the individual characteristics of patients and drugs, basing most of their work in clinical settings (Kidd & Altman, 2000). Their approach has been largely pragmatic, examining the quantifiable aspects of adherence, usually from an epidemiological perspective. As a result, determinant studies and cross-sectional designs have been common.

The areas of interest focused on by people using a medical science perspective have not changed very much over time. In the 1970s a review of early studies on the determinants of poor adherence organised their findings according to six categories (Haynes, 1976a):

1. demographic features;
2. features of the disease;
3. features of the therapeutic regimen;
4. features of the therapeutic source;
5. features of patient-therapist interaction;
6. sociobehavioural features of patients.

The review by Haynes (1976a) was summarised for the purpose of the present study and is attached in Addendum A. This provides an overview of the prevailing interest areas of researchers in this field at the time. When examining the classifications, the features and the number of reviewed studies that explore the features, it is noticeable that there were more studies that concentrate on patients’

demographic features, sociobehavioural factors and drug-related factors. Recent reviews indicate that the literature available today still emphasises individual patient characteristics and treatment regimens (Kidd & Altman, 2000).

A major challenge to implementing this type of research has been the question of how adherence can be measured. Although measuring and monitoring patient adherence has been important to medical research and clinical practice, there is still no 'gold standard' method for doing so (Farmer, 1999). Before identifying suitable methods it has been crucial for those concerned to define adherence and to clarify precisely what type of behaviour is being studied (Vermeire et al., 2001). Based on their operational definitions, researchers have been able to use several direct and indirect methods for measuring adherence. Direct methods include chemical detection in body fluid, direct observation and electronic monitoring devices (Vermeire et al., 2001). As indirect measures, researchers and clinicians have used interviews, patient self-reports, adherence questionnaires, adherence diaries, tablet counts, prescription records and even therapeutic and preventative outcomes as measures (Farmer, 1999). Because none of these methods are entirely accurate, researchers have had to use a combination of them to get the best estimate of adherence (Sumartojo, 1993).

To date almost 200 different variables have been used to try to account for poor adherence, with little or no success (Vermeire et al., 2001). According to a recent review, the characteristics of the disease, nature of the referral process, type of clinical setting, therapeutic regimen and patient demographics do not seem to play a role (Vermeire et al., 2001). The presence of psychiatric disorders, features of the treatment (for example, duration, number of medications, their cost and the frequency of doses) and the degree of disability appear to be linked to adherence (Vermeire et al., 2001). Other influential factors include the relationship and communication between health providers and patients and the attitudes, experiences and beliefs held by patients, their family members, friends and community about particular illnesses and their treatment (Vermeire et al., 2001).

Predicting adherence has its challenges (Spire et al., 2002). Health providers have used patient characteristics to predict adherence, while researchers have used multivariate models to predict adherence — but both these approaches are still inaccurate (Vermeire et al., 2001). Using patients' demographic variables to predict adherence has yielded contradictory and unreliable results (Sumartojo, 1993). Findings have been inconsistent, but many still feel that nonetheless there may be some causal relationships worth exploring (Vermeire et al., 2001).



### Social science perspectives

Social scientists' perspective on the issue of adherence has largely been a critical response to the more pragmatic, individualistic perspectives of certain health providers and medical scientists. Their aim has often been to challenge these views that have dominated the literature by generating alternative views on adherence. To achieve this, an "outsider" perspective has been taken in order to avoid taking on the dominant worldview of the medical profession (Trostle, 1988). Most criticisms have been centred around health providers neglecting to consider patients' perspectives or ignoring the broader social processes that are at play (Chemtob et al., 2000; Gandy & Zumla, 2002).

Social scientists have suggested that the prevailing schools of thought have relied heavily on reductionism in their understanding of adherence. Although medical scientists' approaches to the issue of adherence have been diverse, most conceptualise it as a patient characteristic or trait (Lutfey & Wishner, 1999). These individual patient characteristics, accounts and histories tend to be epidemiologically scaled up, and this quantification of personal data has been named biomedical individualism (Gandy & Zumla, 2002). According to some, demographic characteristics should not be seen as the most important factors influencing adherence, but other factors should be foregrounded (Day, 1995). An emphasis on biomedical technology has under-recognised behavioural issues around adherence (Ellis et al., 2000). Some authors have recommended more flexible, dynamic approaches that take patients' daily experiences with their adherence to treatment into account (Spire et al., 2002). This may counter the tendency to search for overly simplistic explanations and solutions for these complex phenomena.

Medical science's focus on clinical settings and practical and technical strategies may sometimes come at the expense of reflexivity. Researchers and health providers commonly fail to acknowledge their own assumptions. The most basic assumption is that medical treatments prescribed by health professionals are safe, effective, beneficial and necessary for their patients' health (Feinstein, 1979). Health professionals are assumed to be the single source of health solutions (Butler et al., 2001). To counter these assumptions authors have pointed to medical history, where professional health advice has often done more harm than good to those following it (Trostle, 1988). It has also been argued that health providers are not necessarily in the best position to accurately identify health problems and the best treatments for their patients, and their control over patient behaviour is often exaggerated (Butler et al., 2001; Steiner & Earnest, 2000). These types of assumptions may not only deny patient self-efficacy and autonomy but also overload health providers<sup>2</sup> with responsibility for

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<sup>2</sup> Even the term 'health provider' could be seen as problematic because it may feed into the idea that health is exclusively the domain of professional health workers.

adherence. This misplaced responsibility also fails to consider the natural changes that may take place in patients' adherence behaviour (Miller & Rollnick, 2002a).

While health professionals are assumed to be central to people's health, patients have tended to be targeted as the cause of adherence problems (Butler et al., 2001). They are seen as the source of problematic behaviours and, as a result, more interventions target patients than professionals (Hunt & Arar, 2001; Rollnick, 2001). Arguably, changing the behaviour of health professionals and other actors can be just as important and challenging as changing patients' behaviour (Erhardt, 1999). Literature also tends to place the emphasis on why patients do not adhere, rather than on why they do.

In addition to these critiques, social scientists have been asking a number of questions about adherence, including:

- What are some of the limitations of the thinking, concepts and terms used around adherence and how do they influence health care?
- What roles do different contexts play in adherence?
- What are patients' perspectives on adherence?
- What theoretical approaches can contribute to an improved understanding of adherence?

Developing consensus on terms describing adherence behaviour has been an important challenge for those interested in the topic (Sackett, 1976). Some have assumed or intended that these terms are free of moral judgement (Conrad & Schneider, 1980). 'Adherence talk' has been the subject of much debate and criticism. It has been argued that the labelling of patients as "non-compliant" has an impact on the way professionals understand the issue and consequently on the way that they deliver care (Lutfey & Wishner, 1999). These terms are also seen as social constructs that reflect the way professionals understand the behaviour of their patients (Steiner & Earnest, 2000).

A social constructionist perspective sees "compliance" language as something that has been created by health professionals to describe uncooperative and "difficult" patients (Trostle, 1988). Historically, these patients were typically dealing with poverty, alcoholism or mental illness (Lerner, Gulick, & Dubler, 1998). These labels have been used by practitioners and researchers in a way that expects "compliance" to be the norm and sees "non-compliance" to be deviant behaviour (Gleissberg, 2001). Considering the reality that it is uncommon for people to follow all professional health advice, one could argue that compliance is actually deviant behaviour. At times some

providers using these terms have used an inflexible, dogmatic or even abusive approach to patients (Hellman, 1993).

Some critics feel that the use of terms like “compliance” entrench a way of thinking that justifies health professionals’ authority over patients – a form of social control (Trostle, 1988; Zola, 1978). In the past professionals were understood to have control over this particular aspect of patient behaviour (Trostle, 1988). In certain instances this “control” has been legally enforced (Playle & Keeley, 1998). This ideology also reproduces professional dominance over people’s health and limits patient autonomy (Conrad & Schneider, 1980; Coser, 1978; Trostle, 1988). This mind-set makes the health provider responsible for telling the patient what to do and makes the patient responsible for carrying out what has been recommended (Paul, 2002; Trostle, 1988). By labelling this particular patient behaviour as “non-compliant” or deviant the medical profession has been gaining greater legitimacy and influence in society, according to some authors (Kurtz & Chalfant, 1984; Playle & Keeley, 1998; Trostle, 1988). This has enabled the profession to monopolise and position itself as the gatekeeper of health care (Trostle, 1988).

However, patients cannot be seen as simply passive treatment recipients who tend to behave irrationally against doctors’ orders (Trostle, Hauser, & Susser, 1983). When explored from patients’ perspectives, one finds that they make highly rational and intelligent decisions about whether comply or not (Britten, 1994; Donovan & Blake, 1992). Certain decisions of patients to be “non-compliant” have later been deemed to be appropriate by their health providers (Steiner, Fihn, Blair, & Inui, 1991). “Non-compliance” could also be seen as a patient’s response to perceived threats to their freedom of choice (Fogarty, 1997). In this case, “non-compliance” could represent a patient reaction to professionals’ attempts to control their behaviour. These active decisions that patients make about their lives and their health are not commonly acknowledged in medical discourse (Fox, 1998).

Patients have a much wider range of health behaviours than those that are defined by professionals (Zola, 1980). Health “providers” play only a small part in this process (Playle & Keeley, 1998). For example, people rely on themselves, their families, friends, neighbours and a number of other resources other than health professionals (Trostle, 1988). When their behaviour is either presented as ‘adherent’ or ‘non-adherent’, this complex range of behaviour patterns and motivations is not adequately recognised (Steiner & Earnest, 2000). This biomedical discourse may be inclined to alienate people from their own wellness on the one hand, and to blame them for their illness on the other (Fox, 1998).

Alternative perspectives foreground the importance of understanding people's individual experiences and explanations of their illness conditions and behaviours in their particular life context (Playle & Keeley, 1998; Ricart et al., 2002). More attention needs to be paid to what adherence might mean to a particular patient (Zola, 1980). This is an area where social science has contributed to adherence literature, particularly from the 1960s, where patients' knowledge, attitudes, beliefs and behaviours became popular in studies (Chemtob et al., 2000). These types of studies illustrated the diverse views that patients have of the benefits and barriers around their adherence behaviour (Ferguson et al., 2002). Authors have noted how incongruent health providers' views are from these perceptions of their patients (Mayer & Timms, 1978; Pope & Scott, 2002). Focusing more on patient perceptions and experiences may give a more holistic understanding of a person and their health behaviour (Fox, 1998; Schilder et al., 2001).

Qualitative studies that have focused on lay persons' experiences of medicine-taking have tended to centre on chronic illnesses and people who are taking their drugs, but not as advised by professionals (Pound et al., 2005). A synthesis of qualitative work on this subject revealed the way that people tend to test the drugs they use for themselves and adapt their regimens based on their experience (Pound et al., 2005). It examined the impact of lay persons' drug-taking on their perceptions of themselves and the responses of others (Pound et al., 2005). This synthesis concluded that poor adherence had more to do with people's worries about the drugs they were taking and less to do with their performance as patients, their health providers or the health systems responsible for delivering care (Pound et al., 2005).

Research on patients' contextual and cultural factors also has a contribution to make to a more holistic understanding of adherence. For example, close social links may play an important role in adherence (Sumartojo, 1993). A number of studies have highlighted the social implications of disease conditions such as TB and the stigma and cultural beliefs that are associated with them (Sumartojo, 1993). Studies in this previously neglected area have been used to inform and improve the design of health care interventions around the issue of adherence (Chemtob et al., 2000).

Other authors have criticised these studies that have focused on factors intrinsic to individual patients and cultural aspects because of their tendency to blame and stereotype patients (Chemtob et al., 2000). They may blame patients for non-adherence by overemphasising how much choice patients have about whether they adhere to treatment or not (Farmer, 1997). Authors like Farmer (1997) have emphasised the influence of poverty and economic and political contexts on adherence.

Cultural factors and social stigma may be more important in high-income countries and populations where some of these structural barriers are not as influential (Chemtob et al., 2000).

*The present study attempts to find some middle ground between the pragmatic approaches of the biomedical, public health perspectives and the more critical social science perspectives, such as those of Zola (1988) and Trostle (1978). On the one hand, it seeks to offer practical suggestions of how things should be done differently. On the other hand, it values the complex social context in which TB treatment takes place and the interactions and relationships involved in creating interpretations and accounts of what takes place (evidenced in the results of the study itself).*

## 1.4 Improving treatment adherence

### 1.4.1 *Moving the debate forward*

Changes in the thinking around patient adherence to treatment seem to have shifted slowly over the last three decades, particularly in the case of TB. Considering this, the terms used to talk about adherence have changed quite frequently. Some authors may argue that this reflects an underlying discomfort or anxiety around the issue among professionals (Sinason, 1992). New terms may not be an effective way of improving the way that professionals interact with patients, although the intention behind the new terms may be good (Freeling & Gask, 1998). Changing the language that professionals use may actually mask the more important issue of improving the quality of health care (Freeling & Gask, 1998).

Perhaps more important is to change the way professionals understand adherence. Health professionals cannot be assumed to be behaving entirely in their patients' best interests either (Zola, 1980). Professional advice, although it may be given with good intentions, often fails to take social factors into account and can do more harm than good. From a social science perspective, a biomedical understanding needs to be expanded to consider patients' complex social contexts (Kidd & Altman, 2000). Contextual factors such as socio-economic status, culture and politics may be particularly influential in determining people's risk of disease and their health and illness behaviour responses (Adler et al., 1993; Farmer, 1997; Mechanic, 1992). Equally, health providers' rapidly changing contexts require consideration (Harrison & Pollitt, 1994).

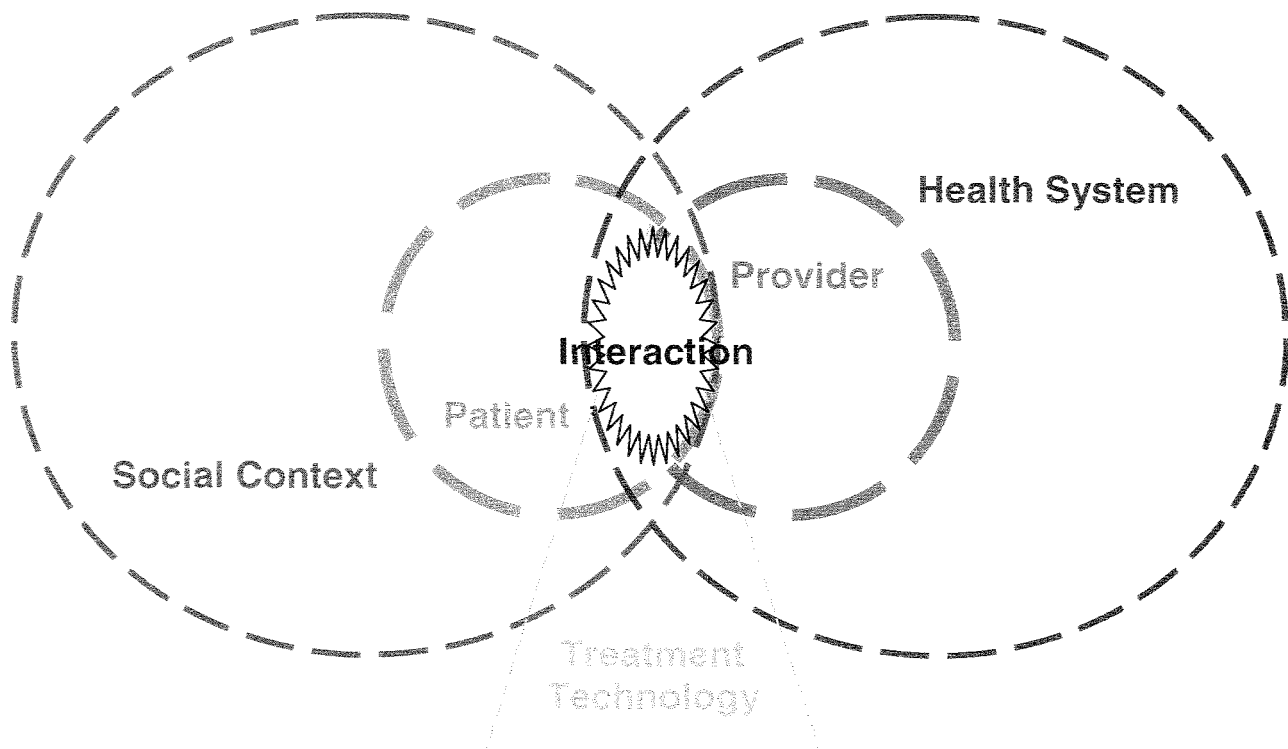
One approach to understanding the complexity of patient behaviour has been to generate and use theory. The contribution of theoretical perspectives will be addressed in more detail in the chapter

that follows. This has been a valuable contribution of certain social science perspectives to current thinking about patient adherence to treatment.

### 1.4.2 Adherence strategies

Many strategies have been generated to improve patient adherence to treatment. These strategies vary according to who or what they are targeting for change. Certain strategies target patients directly while aiming to influence adherence indirectly by targeting other actors or factors for change. The range of available strategies can be summarised according to their targets, as can be seen in Addendum B. They may target patients, health providers, the relationship between health providers and their patients, the treatment, patients' social contexts or the health system for change, as represented in Figure 1.2.

**Figure 1.2** Factors and actors targeted by adherence strategies.



The development of targeted intervention strategies for enhancing patient adherence to treatment has largely been based on the ways that adherence has been understood, as discussed earlier in this chapter. Traditionally, the vast majority of strategies have focused on technological improvements to treatment and ‘carrots and sticks’ for changing patients’ behaviour (Hunt & Arar, 2001; Sbarbaro, 1979). Increasing energy is being put into changing the quality of interactions between patients and health providers. In order to improve encounters between patients and providers some authors have begun to put more energy into identifying ways of changing health providers’ behaviour and the

system of health care. Patients' social circumstances are increasingly being taken into account. These are small but growing areas of adherence research.

When attempting to identify which strategies work best, researchers have been unable to show consistently that any single strategy is significantly superior to others (Roter et al., 1998). Some authors suggest that interventions that only target the behaviours of patients are likely to have a limited impact (Homedes & Ugalde, 2001). Haynes reviewed interventions designed to improve adherence in terms of their impact on adherence and therapeutic outcomes, and concluded that those that used behavioural strategies or a combination of behavioural and educational strategies were superior to those that used educational strategies alone (Haynes, 1976b). This seems consistent with the results of more recent reviews that indicate that most interventions combine strategies (Haynes, McKibbin, & Kanani, 1996), and that using multiple strategies may be superior to employing single strategies (Roter et al., 1998). A review by Roter et al. (1998), however, indicated that educational strategies may be more favourable than behavioural strategies.

Although no magic bullets have been found, the wealth of literature does provide a range of useful ideas and suggestions for those interested in designing interventions to improve adherence behaviour. Specific strategies that seem to show some promise in terms of positive effects on outcomes are one-to-one educational instruction, packaging and dosage simplification, mail reminders, educational interventions, telephone education, and rewards or incentives for appointment-keeping (Roter et al., 1998). There are, however, questions that remain about how an appropriate combination of strategies should be selected, implemented and evaluated.

### *1.4.3 Studying adherence and designing interventions*

More recent reviewers of adherence strategies indicate that adherence is far more complex than initially thought. It is influenced by a myriad of interacting factors and multiple levels of analysis (Kidd & Altman, 2000), and cannot be understood as simply a patient problem as it has been in the past (Vermeire et al., 2001). The issue can be analysed on a number of different levels, including the patient, the provider and the health care system (Ockene, Hayman, Pasternak, Schron, & Dunbar-Jacob, 2002). Behaviour change is required at each of these levels to create an environment that facilitates improvement. There are several facets to improvement at each of these levels. At the patient level, for example, there are also likely to be numerous different concurrent health problems that require behaviour change for that patient (Paul, 2002). Equally, changes are required from health and social systems. These actors can be understood to influence and be influenced by each other

(Kidd & Altman, 2000). Rather than trying to predict the way they interact, attention should be given to the dynamics of the changing and shifting influences (Spire et al., 2002).

With this understanding, reviewers have recommended that interventions designed to improve adherence should include a number of considerations. From this perspective, interventions that include a combination of cognitive, behavioural and affective components demonstrate better outcomes than interventions that have only one focus (Roter et al., 1998). The WHO recommends that adherence interventions should address systemic factors as well as factors related to the disease, the treatment and the patient (WHO, 2001a). Others reinforce this recommendation, suggesting that interventions combine multiple components that target these different levels and factors (Chesney, Ickovics, Hecht, Sikipa, & Rabkin, 1999; Vermeire et al., 2001). It is also suggested that intervention designs are stronger when they draw on a variety of different disciplines and perspectives, while a guiding theoretical framework can be helpful (Vermeire et al., 2001).

Despite these recommendations, some gaps have been identified in the body of research on adherence research (Vermeire et al., 2001). Reviewers have suggested more emphasis on patient-provider interactions, collaboration and shared decision-making. Sociological and psychological research models and qualitative methods are notably lacking from adherence-related studies (Vermeire et al., 2001). If the complexities of adherence interventions and behaviours are to be better studied, longitudinal study designs may prove more useful than the cross-sectional studies that tend to be the norm (Spire et al., 2002).



## Chapter 2: Intervention Design

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*This chapter focuses on the thinking behind the selection and implementation of Brief Motivational Interviewing as an intervention in the present study. The positioning of the intervention within sequence of related studies and a larger project with multiple interventions is explained. The concept of patient-centredness is described as a broad approach with the potential to improve TB care and control. A chronic conditions framework is used to illustrate the range of systemic factors thought to influence interactions between health providers and TB patients. Key change theories that were used to guide efforts to influence the behaviour of those involved in the study are summarised. Finally, Brief Motivational Interviewing is reviewed as an intervention designed to improve the quality of consultations about behaviour change in health care. Literature on implementation of Brief Motivational Interviewing in the South African context of TB treatment is reviewed as the study's approach to implementing it is described.*

### 2.1 Developing the intervention rationale

#### 2.1.1 Selecting Brief Motivational Interviewing

Brief Motivational Interviewing (BMI) is a practical approach to having quick and constructive conversations about behaviour change in busy health care settings. It includes a set of skills or tools designed to help practitioners to craft caring consultations that elicit the mixed emotions that people have about change and promote healthier behaviours. The approach itself is discussed in detail later in this chapter, but the reasoning leading up to its selection as an intervention for the AFDOT<sup>3</sup> study in South Africa will be examined first.

Although this thesis only focuses on the BMI component of AFDOT,<sup>4</sup> its selection cannot be isolated from the rationale for the larger project and the body of work that was taking place at the Health Systems Research Unit of the Medical Research Council of South Africa. This Unit's work was focused on research regarding improving health care in order to improve people's health. The work of Dr Judy Dick and others in the Unit had engaged in the international and local debates around TB policy, treatment adherence and care strategies. This study was informed by a sense of dissatisfaction with the lack of emphasis on the qualitative and caring aspects of TB treatment and policy and the epidemiologically slanted understanding of treatment adherence which has tended to

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<sup>3</sup> 'AFDOT' refers to the European Commission-funded study which focused on exploring patient-centred approaches to health care in the context of Directly Observed Treatment in sub-Saharan Africa from which this thesis is drawn.

<sup>4</sup> The South African wing of the AFDOT project implemented a multifaceted intervention which included a photo-novella and a prepacked medication system in addition to health worker training on Brief Motivational Interviewing.

guide interventions in this field (reviewed in the previous chapter). Some of this work has been discussed earlier, but some of the key clusters of research leading up to and overlapping with the AFDOT project were as follows:

1. A study to pilot a new TB register found that staff did not know how to monitor treatment adherence (Dick & Youngleson, 1994).
2. This led to a doctoral dissertation using participatory methodologies to identify barriers associated with TB treatment adherence and develop and test interventions (Dick, 1994). This work found that interventions could be implemented, and that some enhanced adherence in the research setting. However, subsequent efforts to roll out<sup>5</sup> these interventions proved unsuccessful outside of the study context.
3. Another cluster of studies began to explore the practices of TB staff, understand their context of work, their relationships with patients and the dynamics among health staff and managers (Van der Walt & Swartz, 1999; Van der Walt & Swartz, 2002). These studies described how TB treatment was structured around a biomedical task orientation that inhibited care.
4. This overlapped with studies that developed and tested interventions designed to improve provider-patient communication and a patient orientation in TB services (Dick, Lewin, Rose, Zwarenstein, & Van der Walt, 2002; Dick & Lombard, 1997; Dick, Van der Walt, Hoogendoorn, & Tobias, 1996; Lewin et al., 2005). The most recent of these studies prior to the AFDOT study was to assess the effect of a multifaceted intervention in a busy health facility setting (E. Hoosain, personal communication, 7 January 2002), and its results are not yet published.

The AFDOT project in South Africa sought to build on this work by identifying additional interventions designed to improve patient-oriented approaches to care in the context of the country's busy TB services. BMI was presented to a team of researchers and health service managers who were designing the AFDOT study in September 2001. This group decided that BMI should be included as an intervention component in the study because it seemed to be a pragmatic approach to making consultations more patient-oriented while simultaneously addressing health behaviours, such as treatment adherence. Before BMI is explained in more detail, the philosophical and theoretical base behind its selection and implementation will be examined.

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<sup>5</sup> 'Roll out' is a term used in health service management to refer to the process of expanding the implementation of an intervention to a wider or larger group of health services, often following the piloting of that intervention.

### 2.1.2 *The use of theory*

Intervention and research designs can be supported by the use of theoretical models and frameworks (Judge & Bauld, 2001). Over the last 50 years social scientists have generated numerous theories about human behaviour (Johns Hopkins Center for Communication Programs, 2002). Models and frameworks have been used to understand, predict or explain the behaviour or problems of individuals, groups and organisations in health care and the way in which they do or do not change. Available theories draw on a range of sociological, psychological, health worker and systems perspectives, but the most commonly used theories in the field of adherence are theories of health behaviour, such as the Health Belief Model or the Theory of Planned Behaviour (Brawley & Culos-Reed, 2000). Although none refer specifically to treatment adherence, many have been applied to the topic (Brawley & Culos-Reed, 2000). These theories can be used to shape how interventions are developed, implemented and evaluated.

Today there is a growing body of evidence that theory-based interventions can be effective in health care (Fishbein, 1998; Smith, 2000). This has been a neglected area in health care practice, despite this body of work. Where theory has been used, it has tended to be applied more often to patient behaviour than health provider behaviour. Even in cases where interventions or models for changing provider behaviour are said to be based on theory (Rosswurm & Larrabee, 1999; Thorsen & Mäkelä, 1999), the theoretical base is seldom articulated clearly.

Often the challenge in using theory is that there are numerous potentially relevant theories to choose from (Brawley & Culos-Reed, 2000). Often generated by different disciplines, no single theory or conceptual framework is dominant. Theories can be difficult to make sense of as they vary in their complexity and may use different terms to describe what may be similar concepts. Some tend to focus on specific behaviours of specific people or groups under specific circumstances. Other theories are more generic, but there is no overarching framework for integrating theories. Some seem to complement each other while others seem contradictory. To compound this challenge, theories are often 'branded' as academics' attempt to claim territory. All of these factors can make theory difficult to understand and use to guide interventions.

The models, frameworks and theories discussed in this chapter were selected because they seemed to make a contribution to the emerging needs of the project. They were selected because members of the research team perceived them to:

- apply in the context of health care;
- cover a broad range of behaviours;

- include patients, providers and systems; and
- be easy to understand and apply.

Initially a wider range of theories was reviewed, but this list was narrowed down as the key contributions of each theory to the intervention design emerged. The present study relied on concepts, frameworks and theories which are commonly ignored in TB and adherence intervention research. Those described in this chapter include the idea of a patient-centred approach to health care, a model of the systemic factors that influence interactions between health workers and patients with chronic conditions (such as TB) and the Information-Motivation-Behavioural Skills Model (Fisher & Fisher, 1992) and Transtheoretical Model (Baird, 1998) to illustrate key factors that interact to influence individual behaviour and the process of change.

By explaining some of these models and BMI (selected for use in other project interventions), this chapter attempts to demonstrate some paradigm shifts needed for a more balanced approach to TB policy and practice. The models discussed essentially propose adjustments to the thinking behind TB programmes:

- from controlling a disease towards caring for people;
- from biomedical individualism to a more holistic systems orientation;
- from TB as an acute emergency towards TB as a chronic condition; and
- from treatment adherence as problematic patient behaviour to multiple actors that need to change.

## 2.2 Patient-centred care

### 2.2.1 *Dimensions of 'patient-centredness'*

A patient-centred approach (PCA) has been proposed as a way of enhancing the quality and outcomes of interactions between health providers and patients. To date few definitions of patient-centredness seem to be both clear and consistent (Lauver et al., 2002), but Mead and Bower (2000) and Stewart et al. (1995) arguably provide the most comprehensive and concrete descriptions of the dimensions of what defines 'patient-centredness'. These two overlapping definitions have been synthesised into the following seven dimensions for the purposes of this review:

1. A biopsychosocial perspective – seeking to understand the whole person, including biological, psychological and social aspects (Mead & Bower, 2000);

2. Understanding each patient as a unique person with their own individual experience of illness (Mead & Bower, 2000; Stewart et al., 1995);
3. Building a therapeutic relationship with patients based on the care, sensitivity and empathy communicated by the provider (Mead & Bower, 2000);
4. A collaborative provider-patient relationship where power, responsibility and decision-making are shared (Mead & Bower, 2000; Stewart et al., 1995);
5. Provider self-awareness, considering their own emotions and behaviours as they interact with patients (Mead & Bower, 2000);
6. Realistic consideration of personal limitations and issues such as the availability of time and resources (Stewart et al., 1995); and
7. Incorporating prevention and health promotion (Stewart et al., 1995).

### 2.2.2 *Strategies to enhance patient-centredness*

Each of these components of a PCA are valued and expressed differently by different authors (Lewin, Skea, Entwistle, Zwarenstein, & Dick, 2002), but may ultimately have a positive contribution to make in the search for strategies to improve the quality of health care. The concept of patient-centredness has been applied in a variety of different ways in different health care settings. Many interventions seem to focus on improving the quality of providers' communication with patients, often by training providers in interpersonal communication skills. According to a systematic review (Lewin et al., 2002), most interventions to promote a PCA have been directed at primary care physicians in community or hospital outpatient settings. This review also found that patient-centred interventions may have a positive impact on the quality of clinical consultations and patients' satisfaction (Lewin et al., 2002). Although not confirmed in the systematic review, some have suggested that there is evidence of a relationship between effective provider-patient communication and improved health outcomes (Stewart, 1995). Thus, the link between improved provider-patient communication and treatment adherence is not entirely clear.

Little is known about the feasibility of implementing a PCA with nurses in busy PHC facilities in developing country contexts or about how this type of approach is received by health providers and patients in these contexts. The results of one study that explored this in the context of family planning services in Egypt indicate that this type of approach can be feasible, acceptable and associated with better health outcomes in a less developed country setting (Abdel-Tawab & Roter, 2002). Two studies on implementing a PCA in a South African TB treatment context, however, suggest that although health providers who are trained in patient-centredness and interpersonal

communication accept the principles of a PCA, this does not necessarily result in a significant or sustained improvement in TB care or outcomes (Lewin et al., 2005).

The models and theories described later in this chapter may provide some explanations for this gap between provider training in a PCA and its implementation. However, some of the researchers involved in these studies believe that the training on a PCA did not provide enough strategies and practical skills to demonstrate how these principles can be applied to patient-provider communication in the context of TB treatment (J. Dick, personal communication, 7 January 2002). It is this gap between principles, practice and context that led to a wider search for pragmatic applications of patient-centred communication from other health fields. BMI skills and tools seemed to meet these criteria.

## 2.3 The Chronic Care Model

### 2.3.1 *A systems orientation*

Farmer states that although a PCA is important, focusing on patient-centredness alone is insufficient because of complex factors beyond a patient's control (Farmer, 1997). Communication between health providers and patients takes place in a wider context where a myriad of systemic factors work together to influence interactions between health providers and patients. An overemphasis on individual factors and characteristics in intervention research and theory has been noted (Cohen, Scribner, & Farley, 2000). The idea that individuals influence and are influenced by broader factors has been increasingly acknowledged. This has shifted the thinking in medical education and practice from a biomedical approach towards a biopsychosocial approach, and is central to the basic paradigm informing public health practice (Cohen et al., 2000).

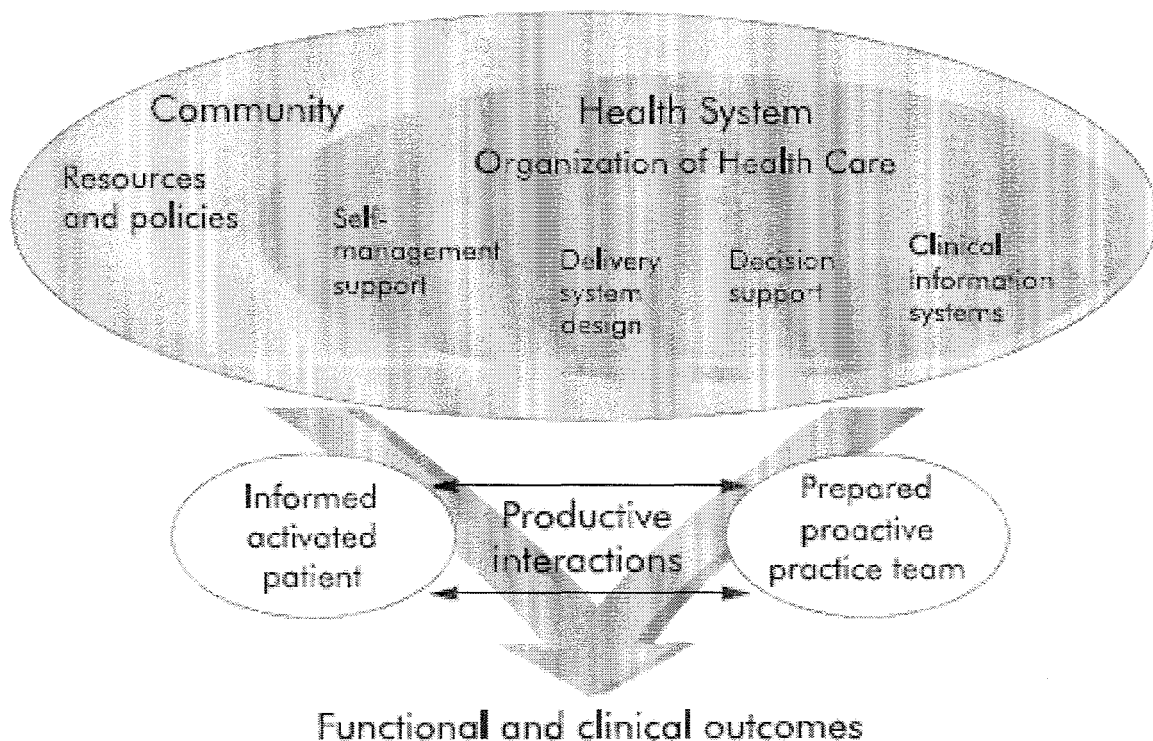
In line with this systems orientation there are a number of levels that can be understood to interact with each other to shape behaviour. McLeroy et al. (1998) in Glanz and Rimer (1996) identify five levels of influence for health-related behaviours and conditions: (1) intrapersonal, or individual factors; (2) interpersonal factors; (3) institutional or organisational factors; (4) community factors; and (5) public policy factors. According to Cohen et al. (2000), across each of these levels all interventions are essentially targeting factors that are either within or outside the control of the individual.

### 2.3.2 Chronic care and TB programmes

The Chronic Care Model is one health care orientation that addresses multiple levels. It was developed by Wagner and others (Davis, Wagner, & Groves, 1999) and later adapted in collaboration with the WHO (Epping-Jordan, Pruitt, & Wagner, 2004) to guide health policy-makers and managers on how health systems need to adapt to meet the challenge of chronic conditions such as HIV/AIDS, diabetes, heart disease and TB. The global burden of disease is shifting towards chronic conditions, but current health systems have failed to match these complex new challenges and are still organised for acute, episodic care (WHO, 2001d).

These authors believe that poor adherence to treatment should be viewed as a failure of health care systems rather than of individual patients and health providers (WHO, 2002d). Although this model has since been developed into the Innovative Care for Chronic Conditions framework by the WHO to emphasise the role of communities and families, the Chronic Care Model was used for this study because it spells out more of the health system factors.

**Figure 2.1** The Chronic Care Model (Davis, Wagner & Groves, 1999).



According to this model, the key health system factors that influence the effectiveness of patient-provider interactions include self-management support, delivery system design, decision support and clinical information systems within the wider context of policies and resources. Self-management

support means ensuring that patients and their families have the information, skills and encouragement they need to care better for their illnesses themselves. One could argue that this component is inhibited in TB programmes by the fact that policy requires treatments to be directly observed by qualified professionals or lay health workers.

The delivery system design component of the model refers to the fact that most health care is oriented towards acute care and is seldom prepared to address the needs of a patient for the full duration of their illness. A well-designed system will anticipate the potential challenges its patients will face, and provide follow-up and continuity of care — often delivered by a team that includes professionals and lay health workers with complementary roles. TB programmes seem to be more geared to address TB as an acute emergency rather than a chronic disease. TB policy encourages TB staff to focus most of their efforts on people who have pulmonary TB, particularly during the first few weeks of their treatment when they are infectious. In South African PHC facilities continuity of care is limited by the management practice of rotating staff between services within and between facilities. Continuity is further hampered by staff leaving the public health system or leaving the country to seek new employment opportunities for better pay and improved working conditions.

Decision support refers to the resources that health teams need to provide chronic care. This includes the expertise, training, protocols, guidelines, equipment and management backing required to deliver quality care. Much has been done in TB to ensure good decision support for health teams, but the lack of guidelines for collaborative care and communication in TB should be noted.

Clinical information systems, however, are one of the strengths of TB DOTS policy. Good clinical information systems ensure that health providers, managers and policy-makers have access to accurate and helpful information about patients and patient populations as they need it. TB policy emphasises standardised international reporting registers and reporting systems. When these types of data are timely they can improve the responsiveness of health teams and systems.

Systems frameworks such as the Chronic Care Model have been used to map out the factors that mediate health providers' and patient behaviour, and guide interventions designed to influence them (Brook et al., 1998). By placing health system factors such as self-management support, delivery system design, decision support and clinical information systems within a wider context, the Chronic Care Model seems to point out areas where health systems might improve. It also counters a historical overemphasis on the patient-related factors that may influence patient-provider interactions and health outcomes. System-oriented models such as the Chronic Care Model do not necessarily



clearly identify particular intervention strategies, but they do suggest that interventions should be multi-levelled or multi-faceted in order to be successful and should be wholly applied throughout the various stages of a study or intervention (Newes-Adeyi, Helitzer, Caulfield, & Bronner, 2000).

Although the chronic care understanding would not view TB treatment adherence as something purely governed by individual factors, it perhaps does not address all of the structural factors that can be understood to be critical determinants of individual behaviour (Cohen et al., 2000). Some theorists view economic and social factors as the most powerful determinants of health and disease (Berkman, Glass, Brisette, & Seeman, 2000; Marmot, 1998). The Chronic Care Model could, however, help to broaden the scope of existing TB policy and practice. This perspective is used in the present study to identify which aspects of the current system of TB control may need to be targeted for change. Improving the quality of interactions between health providers and patients is central to this model and it suggests that health care teams should be the primary focus of behaviour change interventions.

## 2.4 Behavioural theories

### 2.4.1 *Changing behaviour in health and health care*

Changing behaviour has become a central issue that must be addressed in health systems. If patients are to adopt health-enhancing behaviours (such as taking treatment appropriately, changing diet or exercising), then health providers will need to take on more treatment- and care-enhancing practices (such as implementing evidence-based guidelines). Health providers usually depend on the power of their status as 'experts' and/or information to convince patients to change (Elder, Ayala, & Harris, 1999). Policy-makers' and managers' attempts to change health providers' behaviour have perhaps relied on similar approaches and assumptions. These behaviour change interventions in health systems tend to be based on intuition and practical tools as opposed to theory and evidence. Then, once well-designed guidelines are developed to promote adherence to treatment, they are not necessarily implemented (Curry, 2000). The reality is that health providers find following guidelines just as difficult as patients find following health advice.

The function of behavioural theories is to improve understanding of behaviours (explanatory theory or theory of problem) and the various ways of changing behaviours (change theory or theory of action) (Glanz & Rimer, 1996). Behaviour change theories tend to focus on intrapersonal factors such as a person's knowledge, attitudes, behaviour, self-concept, skills and development. Some may

also include certain interpersonal factors. Fishbein (The Communication Initiative, 2002) summarises these types of theories by identifying eight psychosocial variables that govern changes in behaviour:

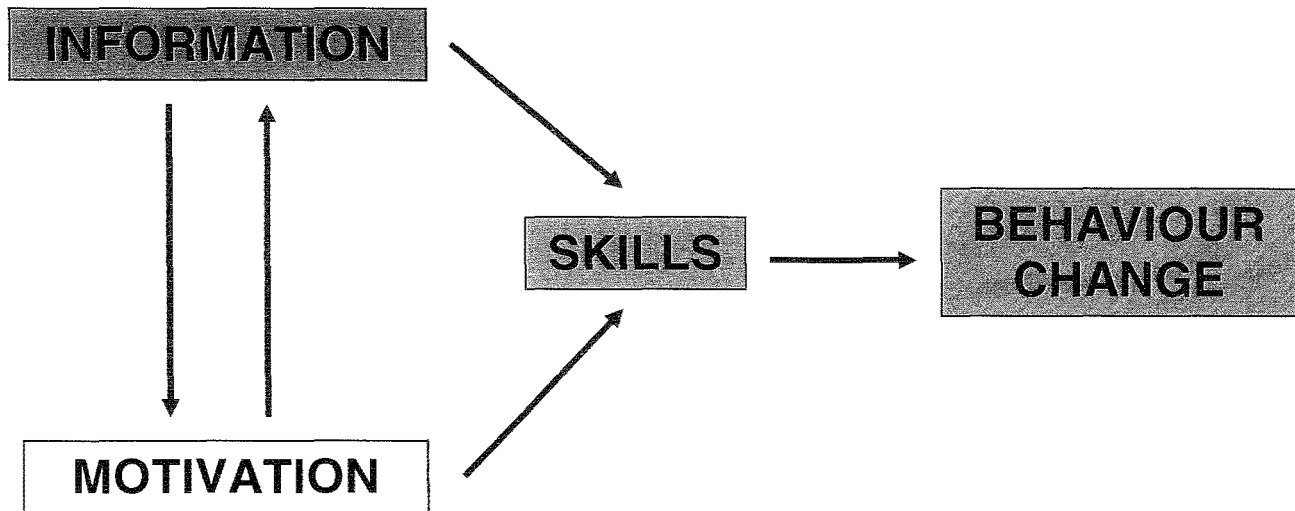
1. A person's intention to change;
2. Presence of environmental barriers to the change;
3. Level of skills available to implement the change;
4. Perceived benefits of changing weighed against costs;
5. Perceived social pressure to change;
6. Perceived degree of consistency of the change with the person's self-image;
7. A person's positive emotional reaction to the change; and
8. Feeling capable of implementing the change under varying circumstances.

Some of these variables are addressed directly while others are implied within the two behaviour change theories selected for the purposes of this intervention design – the Information-Motivation-Behavioural Skills Model (Fisher & Fisher, 1992) and the Transtheoretical Model (Baird, 1998).

#### 2.4.2 *The Information-Motivation-Behavioural Skills Model (Fisher & Fisher, 1992)*

The Information-Motivation-Behavioural (IMB) Skills Model was developed in the field of HIV prevention. It is a relatively simplistic model which incorporates concepts from theories such as the Health Belief Model and the Theory of Reasoned Action (Fisher, Fisher, & Rye, 1995). It proposes that a person's behaviour change is determined by an interaction between the following three critical elements:

1. *Information* – their basic knowledge about the challenges a particular situation brings, how this came to be, how it is likely to develop in future and effective ways of addressing it.
2. *Motivation* – this includes a person's attitudes towards performing the behaviour, the perceived social support and perceived norms of behaving in relation to the particular situation they face.
3. *Skills* – the specific tools or strategies required for performing a particular behaviour.

**Figure 2.2** The Information-Motivation-Behavioural Skills Model (Fisher & Fisher, 1992).

Each of these elements should be addressed in any behaviour change intervention, because individually they are insufficient to effect a change. These concepts form the foundation of the IMB Skills Model and can make complex behaviours easier to understand. It seems widely applicable across various behaviours of patients and providers in health care. There is also evidence of the efficacy of applications of the IMB Skills Model (Fisher & Fisher, 1992; Fisher, Fisher, Bryan, & Misovich, 2002; Fisher, Fisher, Misovich, Kimble, & Malloy, 1996), which tend to be multifaceted educational intervention strategies.

In the context of trying to improve provider-patient communication and ultimately patient adherence to treatment in TB, this model has a number of uses. It clarifies that information that patients have about the disease and its treatment is unlikely to lead to treatment adherence, unless patients also have the skills they need to take their treatment and feel confident in their skills and that applying their skills is important. Similarly, health providers cannot be expected to implement the guidelines they are given unless they understand them, feel they are valuable and are equipped to do so. The findings of previous intervention studies which attempted to introduce a more PCA to TB care by training health providers suggested that trainees knew about the approach and felt it was important, but perhaps lacked the practical skills and support required to implement it. BMI was thought to be a pragmatic approach to patient-centredness.

### ***2.4.3 The Stages-of-Change or Transtheoretical Model***

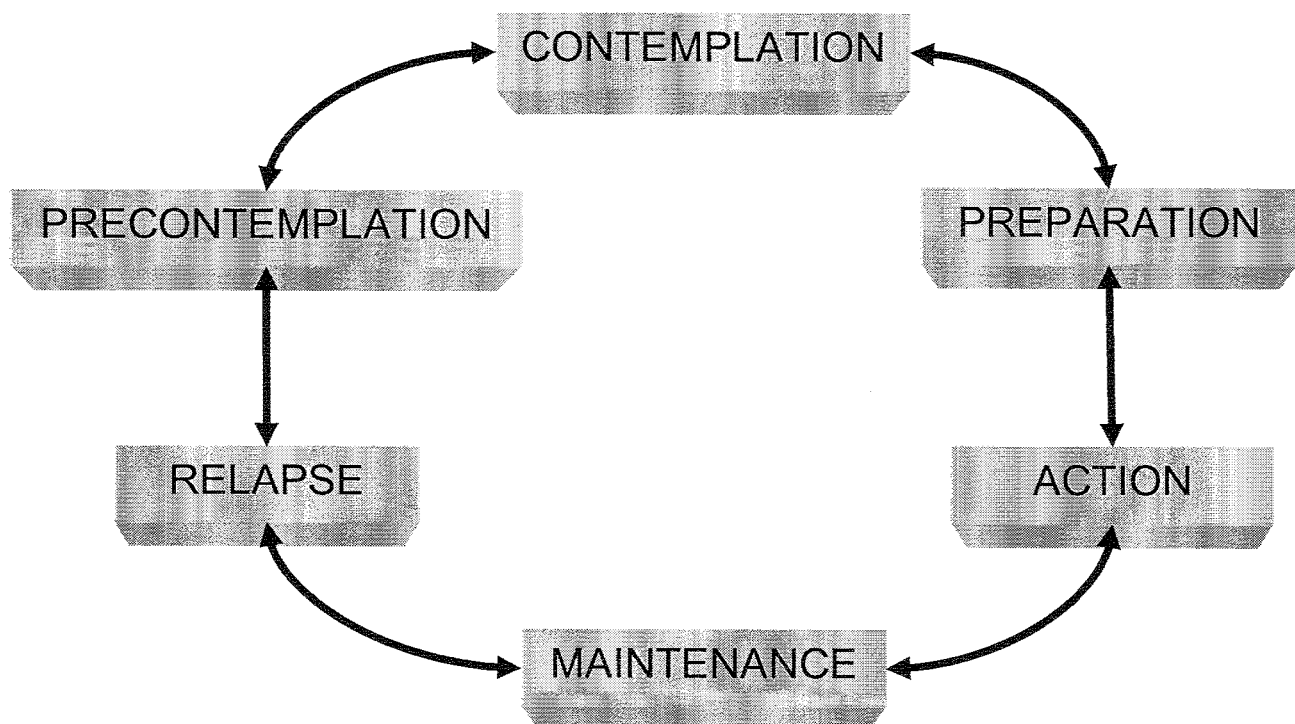
The process of change is articulated further by the Transtheoretical Model (TTM) of Prochaska and DiClemente (Prochaska & DiClemente, 1984). These authors focus on understanding a person's readiness to change by trying to be aware of where they might be located on a predetermined path of

readiness. According to the TTM, this path is a sequence of six discrete stages of readiness to change (Baird, 1998; Feinstein & Feinstein, 2001; Prochaska & DiClemente, 1984):

1. Precontemplation – being entirely unaware of a problem or the need to change;
2. Contemplation – thinking about making a change;
3. Preparation – taking small, hesitant steps in getting ready to make a change;
4. Action – making the change;
5. Maintenance – sustaining the change; and
6. Relapse – returning to an earlier stage.

Although these stages are sometimes graphically represented as a continuum or a spiral, they are perhaps more commonly described as a cycle, as in Figure 2.3.

**Figure 2.3** A cyclical representation of the Transtheoretical Model.



At any given time a person may move towards or away from changing a particular behaviour along these stages (Lauby et al., 1998). The cycle may be repeated several times before behaviour change is sustained. Each cycle through the stages may help a person to improve the way they address that particular behaviour in the next (Feinstein & Feinstein, 2001). A person will also be at different stages of readiness for different behaviours, and these different behaviours may need to be maintained over varying lengths of time (e.g. TB medication adherence versus antiretroviral drugs). However, this type of model may only be useful if one is able to identify and change the factors that

move a person from one stage to the next (Weinstein, Rothman, & Sutton, 1998). Other behavioural theories may complement the TTM by identifying these factors more clearly (Malotte et al., 2000).

The TTM's conceptualisation of stages has been criticised because each stage's qualities are not necessarily clearly distinguishable from those of the others (Sutton, 2001). Although it was initially developed in the context of smoking cessation, recovery and therapy, the TTM has been applied to a wide array of behaviours (Weinstein et al., 1998). It appears to be easily applicable to health providers and patients (Smith, 2000). The TTM may even be applicable to groups and organisations.

The implication of these types of theories is that interventions need to be tailored according to a person's stage of readiness, making it important to identify what stage of readiness a person is at (Feinstein & Feinstein, 2001). The goal of these stage-targeted interventions is to help to shift the person to the next stage of readiness (i.e. not necessarily straight to the action stage). Because change is seen as a process, people are less likely to be characterised as 'compliant' or 'non-compliant'.

The contribution of the TTM to the intervention design was the understanding that health providers (and, as a collective, health facilities) would be at different stages of readiness to implement a more PCA and needed to be dealt with accordingly. The researchers identified 'readiness' as one of its criteria for involving health facilities and attempted to assess and monitor the readiness of individuals and groups during the course of the project.

Integrating theory into interventions may enable multidimensional solutions to the complex problems of behaviour change in health care. Models and theories like a PCA, Chronic Care Model, IMB Skills and TTM may have an important role to play in intervention design, but it is their practical application that is most crucial to change. Approaches like Motivational Interviewing and Brief Motivational Interviewing have developed out of people's working experience in health care and are described next.

## 2.5 Motivational Interviewing (MI)

### 2.5.1 *MI and its dimensions*

Motivational Interviewing (MI) is a patient-centred interviewing style that developed from work done with patients in specialist alcohol treatment centres. MI was a response to the dissatisfaction that practitioners felt with the use of direct persuasion, which often elicits resistance (Rollnick, 2001). Bill

Miller and Steve Rollnick are commonly credited for pioneering this approach, first articulated in the early 1980s (Miller, 1983). MI evolved to a point where Miller and Rollnick (Miller & Rollnick, 1991) wrote a detailed description of these basic ideas, approaches and clinical procedures.

MI can be defined as “a directive, client-centered counseling style for eliciting behavior change by helping clients to explore and resolve ambivalence” (Rollnick & Miller, 1995, p.326). Rather than simply viewing it as a set of techniques, it is best seen as an interpersonal style. The philosophy or spirit of this MI style can be synthesised into the following defining characteristics:

1. Motivation is an **inside-out** process. It cannot be forced from the outside-in, but a patient's intrinsic values and goals can be elicited to stimulate behaviour change (Rollnick & Miller, 1995).
2. **Expressing and resolving ambivalence** is the task of the patient (Rollnick & Miller, 1995). Many patients do not get an opportunity to articulate the unique mixed feelings they may have about changing or not changing, and it is the provider's task to guide them through this.
3. **Readiness to change** is not a static state, but rather constantly changing as a result of interpersonal interaction (Rollnick & Miller, 1995).
4. The provider is **directive** in the sense that he or she is focused on the goal of helping the client to examine and resolve ambivalence (Rollnick & Miller, 1995). This is the central purpose from the provider's point of view.
5. The **patient is responsible** for any change or progress and not the provider (Mid-ATTC, 2001b). Patients control whether a particular behaviour is changed or not, and this **autonomy** is worth respecting. Providers can support patients by building their sense of **self-efficacy** in the process of change (Mid-ATTC, 2001b).
6. **'Resistant' behaviour** is normally evoked by environmental conditions and should not be seen as a patient trait (Mid-ATTC, 2001b). Patient 'resistance' should be seen as a cue for the provider to change his or her approach (Rollnick & Miller, 1995).
7. **Direct persuasion** is counterproductive (Rollnick & Miller, 1995). This will usually increase a patient's resistance rather than help him or her to resolve their ambivalence. As a result, one should avoid prescribing specific labels, methods or techniques.
8. A **quiet, eliciting style** is significantly more effective than an argumentative or aggressive one (Rollnick & Miller, 1995). The goal is for patients to confront themselves with the discrepancies in their behaviour, rather than having a confrontational consultation style.
9. The provider-patient relationship should be more like a **partnership** than an expert-recipient role (Rollnick & Miller, 1995). This relationship should ideally be collaborative and friendly,

respecting the patient's autonomy and freedom to choose his or her behaviour and consequences (Mid-ATTC, 2001b).

These characteristics of the MI style are firmly rooted in the dimensions of patient-centredness (Rollnick, Mason, & Butler, 1999). In particular, the style demonstrates the dimensions related to a collaborative communication style, shared responsibility, understanding limitations, empathy and understanding the patient's point of view.

### *2.5.2 Key concepts and theories underpinning MI*

MI is commonly perceived as a pragmatic, atheoretical approach to consultations (Miller, 1999). Its assumptions and practices have grown “gradually in a largely inductive manner” (Rollnick, 2001, p.1770), based on practitioners' personal experiences of their interactions with patients. Because of this, MI does not offer a discrete or a completely new way of thinking about behaviour change interventions (Resnicow et al., 2002b). Its principles and methods draw on existing models of psychotherapy and behaviour change theory (Resnicow et al., 2002b).

There are a number of key concepts and theories underpinning its practice that have developed out of this practice-focused approach. Although many conceptual frameworks and theories can be related to MI, the dominant ones will be discussed in this thesis. Exploring these underpinnings is a matter of interest to MI practitioners, although acknowledged as a neglected area in MI literature (Miller, 1999). There is a growing body of evidence that indicates that using interventions that are based in theory can be useful for changing patients' behaviours (Fishbein, 1998; Smith, 2000). Articulating these concepts and theories can be beneficial for those interested in understanding, designing, implementing, explaining and evaluating interventions.

The two key concepts behind MI expressed in the literature are “ambivalence” and “readiness to change” (Rollnick, Heather, & Bell, 1992; Rollnick, Kinnersley, & Stott, 1993). These are focused on explaining behaviour change at an intrapersonal level and suggest particular interventions at an interpersonal level.

“Ambivalence” refers to the way a person has mixed feelings about changing a particular behaviour. Drawing on the concept of cognitive dissonance (Miller, 1999), MI understands a patient's apparent resistance as being a manifestation of their feeling two ways about changing their behaviour. This is a feeling of intensified internal psychological discord caused by the challenge of having to decide between different courses of action (Rollnick et al., 1993).

This ambivalence is difficult to resolve because each choice has its own set of advantages and disadvantages. A scale is often used as a metaphor for this individual weighing up of the ‘pros’ and ‘cons’ associated with changing or not changing a particular behaviour. This is where MI resonates well with the Health Belief Model that suggests that people change their behaviour based on a non-conscious weighing up of their beliefs and expectations about a particular health condition, possible health-enhancing behaviours and their ability to perform them (Rosenstock, 1990). This weighing up process is perhaps best described by Multiattribute Utility Theory, which focuses on these rational aspects of decision-making to predict what course of action an individual is likely to take (Carter, 1990). Having the individual articulate each of the perceived personal benefits and costs associated with changing or not changing provides a snapshot of a particular moment in their dynamic decision-making process (Carter, 1990). This allows a practitioner to make an assessment of a person’s expectancies and this can be used to tailor individualised interventions.

The second key concept of “readiness to change” refers to how a person’s ambivalence changes over time. Readiness is seen as a process and is sometimes described as a continuum, a series of stages, a cycle or a spiral. The central theory used to explain it in MI literature is the Stages of Change or Transtheoretical Model. This has been described earlier in this chapter and will not be repeated here.

From an MI perspective these key concepts of ambivalence and readiness are used to understand how fluid a person’s motivation for change can be (Resnicow et al., 2002b). Collectively these concepts of ambivalence and readiness and their underlying theories define the MI understanding of how important patients feel it is for them to change their behaviour, and how confident they feel that they can make the change.

Although these key concepts seem to be most commonly articulated as the underpinning theories of MI, they are consistent with numerous other theories, models and concepts, including those used in the present study – patient-centredness, the CCM and IMB Skills. MI is arguably a practical manifestation of the concept of patient-centredness. It emphasises empathy and exploring the patient’s perspective and tailoring interventions based on this – all dimensions of patient-centredness that have been described in the literature. MI is, however, a directive approach – not in the sense that it aims to coerce patients into changing behaviours that the practitioner feels are important, but rather that the practitioner directs the patient towards resolving their mixed feelings about change. MI’s link to the IMB Skills model is that MI suggests practical strategies for understanding what type of information, motivation and skills a particular person may need for performing a particular



behaviour and then offering tailored support to the person concerned. The CCM's link with MI is less direct, however, as it is largely a health systems model of behaviour change, in contrast to MI's interpersonal approach. MI seems congruent with the various elements of the CCM, but its greatest contribution to the CCM is the way it suggests a practical approach to making interactions between health providers and patients more constructive. The extent to which the theories and concepts of the TTM, ambivalence, patient-centredness, the IMB Skills model and the CCM can be integrated is debatable. Their interrelationships are perhaps best demonstrated when put into practice. The practical elements of MI are to be described in more detail.

### 2.5.3 *MI practice*

The spirit, concepts and theories of MI are most meaningful when put into practice. Typically, five guidelines or principles have been set out for using MI in consultations with patients (Mid-ATTC, 2001a):

1. **Avoid argumentation** – arguing with a patient is counter-productive.
2. **Express empathy** – try to understand the patient's frame of reference.
3. **Support self-efficacy** – the patient must feel that change is possible for it to be successful.
4. **Roll with resistance** – the practitioner does not challenge patient resistance directly, but uses it to explore the patient's own views further.
5. **Develop discrepancy** – the practitioner helps the client to examine the gaps between where they are and where they want to be.

Following these MI guidelines requires skill. Basic skills of active listening are central to the MI style. One acronym that summarises the basic active listening skills required is 'OARS', which stands for open-ended questions, affirmations, reflective listening and summaries (Mid-ATTC, 2002).

MI uses these generic listening skills in a particular way (Rollnick & Miller, 1995), which includes:

- Understanding the world through the patient's eyes (especially by using reflective listening);
- Eliciting the patient's own views about behaviour change (using open-ended questions, for example) and selectively reinforcing the patient's self-motivating statements (summaries and reflective listening can be useful here);
- Closely monitoring the patient's readiness to change (again, reflective listening is essential) and tailoring one's approach to match the patient's readiness; and
- Supporting the patient's right to choose and responsibility for change (affirmation).

Some practitioners seem to be able to demonstrate MI skills quite easily and naturally, while others find it difficult (Miller & Rollnick, 2002a). It is possible for practitioners to learn new MI skills, but when dealing with some clinical settings and behaviours certain MI skills do not seem to fit. This has led MI innovators to adapt it for different settings and develop practical skills and tools to help practitioners to demonstrate this patient-centred style of consultation.

#### 2.5.4 Adaptations for general health settings

Although MI was initially developed in North America and Europe for the treatment of addictions, it was soon applied in a number of other contexts. It has evolved into several context-specific intervention methods as people began to adapt MI for use by different types of service providers (like doctors, nurses and community health workers), with patients who have various other health conditions and behaviours (such as cardiovascular health, diabetes-related behaviours and condom use), in different settings (like primary care), and in different countries. Some of these interventions include Check-Up, Motivational Enhancement Therapy, Brief Intervention and BMI. It is these adaptations for health care settings that were of most interest for this thesis, and they are compared with the original MI application and the study setting in Table 2.1.

**Table 2.1** Comparison of MI applications and adaptation in health care and the study setting.

	<i>Original MI application</i>	<i>MI adaptations in health care</i>	<i>Study's proposed use of MI</i>
<i>Practitioners</i>	Counselling professionals	Health professionals; addiction non-specialists	Nurses (and lay health workers)
<i>Condition</i>	Addiction	Diabetes; cardiovascular conditions	TB (and HIV co-infection)
<i>Related behaviours</i>	Drinking; drugging; gambling; eating	Diet; exercise; medication-taking	Medication-taking
<i>Practice setting</i>	Specialist addiction treatment centres	Primary care	PHC facilities
<i>Session time</i>	30-60 minutes	5-30 minutes	2-15 minutes
<i>Intervention level</i>	Individual; group	Individual	Individual; group
<i>Country setting</i>	More developed	More developed	Less developed

#### 2.5.5 Evidence regarding MI and its adaptations

The body of evidence about MI and its adaptations has grown, particularly over the last 10 years. MI has become increasingly popular over the last 20 years and has been used on five continents, but

there have been suggestions that its widespread use has not been justified by supportive evidence of its effectiveness (Dunn, DeRoo, & Rivara, 2001b). A recent systematic review and meta-analysis included 72 randomised controlled trials of MI and showed that it had a significant effect (95% confidence interval) on outcomes (Rubak, Sandbaek, Lauritzen, & Christensen, 2005). The review concluded that MI was a superior intervention to traditional advice-giving for a wide range of behavioural difficulties and health conditions (Rubak et al., 2005).

But the development of MI as a clearly articulated style has been a dynamic, practice-based process over time, and this has made effectiveness trials difficult to implement (Rollnick, 2001). There are a number of challenges to generating evidence about MI. As a result, very few trials have firm evidence indicating that the style has actually been implemented by practitioners (Rollnick, 2001), and what degree of skill had been demonstrated (Miller, 2001). Monitoring the *style* of treatment has also been a challenge because MI does not require rigid behaviours from practitioners, and there is a shortage of suitable tools for monitoring whether the MI style is being adhered to or not (Miller, 2001). Studies of MI and its adaptations often lack clarity about what skills practitioners were trained to use and the length and quality of the training they received (Rollnick, 2001).

These challenges and weaknesses of trials have raised questions about the appropriateness of the research questions and methods. More attention should be paid to the topic of providers' behaviour change and not just patients' behaviour change (Rollnick, 2001). The use of the randomised controlled trial has also been called into question because it seems to be an inadequate evaluation measure for complex interventions like MI. It has been suggested that it has been used prematurely and inappropriately for evaluating the MI style (Rollnick, 2001). These trials are not answering questions of *how* MI works and for *whom* it works best (Longabaugh, 2001). Qualitative evaluations have been suggested as a priority research method for answering these questions and particularly for exploring patients' perceptions of the interventions they receive (Dunn, DeRoo, & Rivara, 2001a).

There is, however, some evidence that MI may work well under particular conditions and with particular patients. It can certainly be used across a wide range of health-related behaviours, both addictive and non-addictive (Resnicow et al., 2002b), and it is more effective than only providing information or a confrontational approach to treatment (Longabaugh, 2001). According to Project MATCH, MI is more effective with patients characterised as high on anger prior to treatment (Longabaugh, 2001), and this suggests that it may be most effective when used with 'precontemplative' patients. It may also have a synergistic relationship with other forms of treatment, when incorporated (Miller, 2001).

### 2.5.6 *Evidence related to health care and developing countries*

If the literature on MI is insufficient, there is an even greater shortage of evidence about the use of MI and its various adaptations in health settings and in less developed countries. Studies on the feasibility of applications in primary and secondary health care are limited in scale (Rubak et al., 2005). In less developed country settings only two studies were found to be relevant when literature was reviewed for this thesis.

One study used an intervention based on MI as a community-level public health intervention to address safe drinking water practices in Zambia (Thevos, Kaona, Siajunza, & Quick, 2000; Thevos, Quick, & Yanduli, 2000). This study did not clearly explain how the MI was adapted and what the adapted version looked like, but described the adaptation as BMI and that it was implemented by training nurses, who in turn trained lay health workers to implement it. Consisting of two field trials, the study initially found no statistical difference between standard health education and their adaptation of MI (field trial 1), and later found that their MI-based intervention improved outcomes (field trial 2) (Thevos et al., 2000). The authors concluded that MI showed promise in developing country settings, but that the training and implementation approach may need further research in this context (Thevos et al., 2000).

A second study relevant to this thesis explored the applicability of BMI skills by general practitioners providing chronic care in PHC facilities in the South African public health sector (Mash & Allen, 2004). This study provided a more detailed explanation of the general practitioner training that was delivered, the reported application of the skills and the general practitioners' perceptions of the applicability of the skills and the approach. It concluded that BMI was applicable, although challenging, in the study context (Mash & Allen, 2004). It reported that certain skills were less appropriate for the study context and that more work should be done to design more contextually appropriate skills (Mash & Allen, 2004).

Although MI and its adaptations have not been widely applied to TB treatment or PHC clinics in less developed countries, there is evidence that adapting MI to different risk behaviours and populations is possible (Dunn et al., 2001b). This limited evidence suggests that although little is known about their effectiveness at this stage, adaptations of MI (such as BMI) may have potential in busy PHC settings and in less developed countries such as South Africa.

## 2.6 Brief Motivational Interviewing (BMI)

### 2.6.1 *The evolution of BMI*

BMI developed as MI was thought to have potential in settings other than addiction treatment. After initial attempts at training, it was found that primary care workers struggled to apply the generic style of MI to their settings (Emmons & Rollnick, 2001; Resnicow et al., 2002a). A set of quick concrete techniques was designed, intended to manifest the spirit and practice of MI in brief medical contact settings (Rollnick et al., 1992). This formed the basis for 'Brief Motivational Interviewing' and was initially developed for use in a single session of about 40 minutes in primary care settings with non-help-seeking excessive drinkers (Rollnick et al., 1992). Subsequently, further attempts were made to apply the style in encounters as brief as 5 minutes.

### 2.6.2 *Defining BMI*

BMI is a PCA that has been designed for use by health practitioners with their patients in consultations as brief as 5 minutes. The purpose of this approach is to enable practitioners to better facilitate positive changes in the health behaviours of their patients. The method is based upon the use of a menu of strategies and supportive tools which are selected by the health practitioner and used one at a time, according to the degree of readiness to change of the patient (Rollnick et al., 1992). These strategies and tools are intended to expand the practitioner's repertoire of consulting skills and manifest the spirit of PCA.

BMI is different to MI in that it has been adapted to suit the realities of health care settings — where time and resources are limited and practitioners are not necessarily counselling or addiction specialists. BMI also differs from Brief Intervention, which does not necessarily manifest the spirit of MI (Rollnick et al., 2002).

### 2.6.3 *BMI skills and tools*

There are a number of techniques or skills associated with the use of BMI. These skills are specifically designed for busy health care settings but build on a foundation of basic communication skills, such as open-ended questions and reflective listening (Rollnick et al., 1999). Although the BMI practitioner does not have to be a highly skilled counsellor, their degree of competency in the use of these basic communication skills would enhance their use of BMI skills. A number of tools or prompts have been developed in order to enhance the practitioner's ability to demonstrate certain BMI skills in their consultations with their patients about behaviour change. The two skills of negotiating an agenda and exchanging information carefully are good examples of BMI skills that are

supported by consultation tools or prompts. These are explained below for the purpose of practically illustrating the use of BMI skills and tools.

### Negotiating an agenda

One of the challenges health providers may experience in addressing behaviour change in their health consultations is that time is limited and there are numerous complex and interrelated behaviours that could be discussed with a patient. The difficulty for patients may be that health providers tend to decide on a particular topic (or multiple topics) on patients' behalf without considering patients' interests and priorities, and waste time trying to address issues that the patient is unlikely to respond to. The BMI skill of negotiating an agenda aims to involve patients more in the process of deciding which behaviour change topics or issues to discuss during a brief consultation (Rollnick et al., 1999). A chart can be used to graphically represent the range of topics that could be discussed in a consultation, including both the health provider's priorities and the patient's possible interests (Stott, Rollnick, Rees M R, & Pill, 1995). An example of such a chart is illustrated in Figure 2.4 and uses pictures to show that nutrition, alcohol consumption, smoking, physical activity, taking treatment, symptoms and side-effects, employment and family may all be relevant topics to address in a consultation. The blank oval shapes on the chart show that there are other possible topics that the patient may identify as being important to discuss.

**Figure 2.4** A chart to facilitate the negotiation of an agenda between a health provider and a patient.



This chart can be used by a health provider to facilitate the BMI skill of negotiating an agenda in a consultation by showing it to the patient and saying something like:

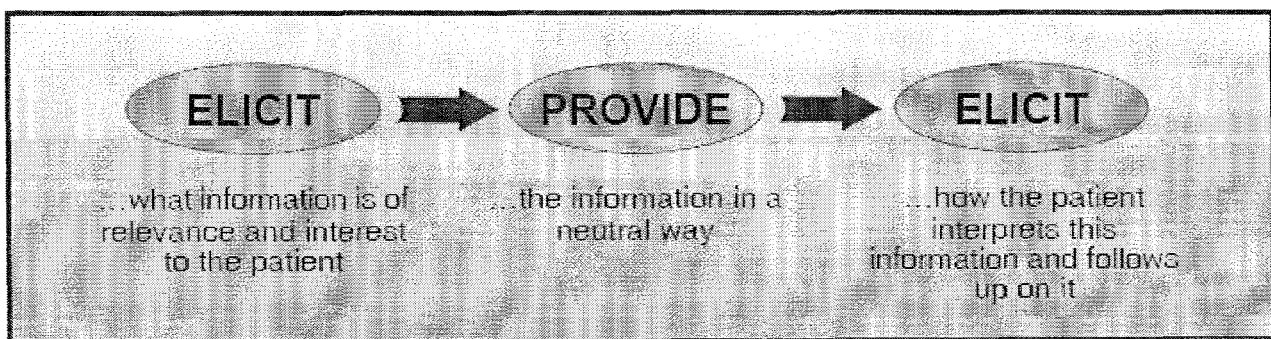
“We have a few minutes to talk together. This chart shows some of the things that we often speak about with patients in your situation. We might talk about what you eat, smoking, drinking, exercise, taking your treatment, feeling sick, your work and your family. These empty spaces here show that there might be other things that you feel are important to talk about. Which of these things are important for us to discuss in the time available, or is there something else that is more important right now?”

This can be a starting point for constructive conversations about behaviour change. Patients may project their own meanings onto the graphics.

### Exchanging information carefully

Another example of a BMI skill that has a prompt associated with it is the skill of exchanging information carefully (Rollnick et al., 1999). Health education tends to be given to patients in an unhelpful way during consultations – too much, too little, inappropriate or too forceful. Information may be given on an unsuitable topic that the patient feels he or she understands well or may have heard about several times before. It may also be given without any consideration for its applicability in the patient’s context. MI assumes that education should be a two-way process in order to be constructive. In order to do this effectively, the BMI skill proposes that the health provider first elicits from the patient what information would be most appropriate, before giving information. Once this is done, the provider can offer information in an honest, impartial way. Then, finally, the provider can ask the patient what the presented information means to him or her in practice and if there is further clarification or information required. This Elicit-Provide-Elicit process (Rollnick et al., 1999) is presented in Figure 2.5.

**Figure 2.5** An example of a prompt to help health providers exchange information carefully with patients (Mash & Allen, 2004).



This Elicit-Provide-Elicit prompt is a guide for the health provider and not the patient. When used appropriately it allows the provider to tailor information and the patient to give feedback on what

information could be useful to him or her and how. This skill could be a useful guide on its own but can also be helpful when used in conjunction with the skill of negotiating an agenda (Rollnick et al., 1999).

#### *2.6.4 Selection of BMI for the intervention*

The selection of BMI as an intervention for this study was therefore not based on evidence of its effectiveness within South African contexts of TB treatment, but rather on its perceived potential. Its inclusion was embedded in the body of research regarding initiatives to improve TB care and treatment adherence and positioned within a larger project designed to understand the feasibility of introducing a more PCA in the context of South African TB care. The rationale for using BMI was informed by: (1) the concept of patient-centredness; (2) systems thinking which acknowledges that a range of factors are required at different levels to ensure that interactions between health teams and TB patients are productive; and (3) behaviour change theories which identify key factors that need to be addressed if key behaviours of health providers and TB patients are to change, and explain the process of change. Ultimately, it was selected because it was specifically designed for use by health providers in busy primary care settings where time is limited, and there is evidence of its adaptability and applicability to a variety of behaviours that affect people's health.



## Chapter 3: Study Design

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*Decisions regarding the study design are explained in this chapter. It shows the study aims and research questions and how they were developed and altered through the life of the project. The positioning of the thesis design within the context of a larger study examining the feasibility of implementing a multifaceted intervention designed to promote a more PCA to TB treatment is indicated throughout the chapter. The methodology combined aspects of participatory action research and grounded theory, and the methods generated largely qualitative data and volumes of material, and this chapter explains which elements were used and how. The role of the researcher and members of the research team are discussed as well as considerations of quality and ethics.*

### 3.1 Study purpose

#### 3.1.1 Study aim

The present study aimed to explore the feasibility of implementing BMI in a context of TB treatment in South Africa. As explained earlier, BMI was used as a component of a multifaceted intervention that formed part of a larger research project called AFDOT. AFDOT's South African study explored the feasibility of implementing a PCA in the context of DOT for TB patients. In addition to BMI, the AFDOT intervention included the introduction of a hand-held photo-novella for patients and a user-friendly prepacked medication system

#### 3.1.2 Research questions

Embedded within the larger feasibility study, the main research question explored for this study was: **What are the issues that facilitate and impede the implementation of BMI in a South African context of TB treatment?**

Towards developing this understanding of BMI feasibility, the study also asked the following sub-questions:

1. What are the current communication practices of facility-based staff in the study context?
2. How can BMI be developed and adapted for this context?
3. What happens when trying to implement BMI in a South African context of TB treatment?
4. How do health providers and managers perceive and respond to BMI?
5. How is BMI implemented in this context, if at all?

### 3.1.3 Study functions

The present study was designed to perform a number of functions. Ritchie (2003) distinguishes between theoretical research that aims to develop and test new ways of thinking and applied research, which puts existing knowledge into practice to understand or address a current issue. This thesis was both theoretical and applied in that it relied on existing knowledge about BMI and the context (as well as knowledge related to the TB policy context, treatment adherence, the South African context of TB treatment, patient-centredness, chronic care and behavioural theory) but also sought to develop new theory for understanding the feasibility of BMI in a new context.

A study such as this can be classified in terms of four broad functions – contextual, explanatory, evaluative and generative (Ritchie, 2003). These functions are summarised in the Table 3.1.

**Table 3.1 Four research functions, adapted from Ritchie (2003).**

<i>Classification</i>	<i>Type of question</i>	<i>Function</i>
Contextual	What is it or what is it like?	Describing
Explanatory	Why or how does it work the way it does?	Reasoning
Evaluative	How well does it work or achieve its aims?	Appraising
Generative	How can we think about or do things differently?	Improving

These functions and categories can be useful for clarifying the purpose of a study. The present study could not be classified as having a single function, but the main question was arguably both generative and evaluative. This means it was trying to appraise the feasibility of BMI in this context and suggest some ways of thinking or doing things differently when implementing this intervention in such a context. In order to do this, however, the study's subquestions had to be more contextual and explanatory – providing descriptive and process-oriented answers about who was involved in the intervention and the study, what happened and why. The contextual and explanatory subquestions were intended to contribute to achieving the evaluative and generative study aim.

## 3.2 Methodology and methods

To achieve the study aims and answer its questions, the study design incorporated elements of the following approaches:

- Participatory action research (Lewin in Greenwood and Levin, 1988) as an approach to implementing the intervention and generating data;

- Qualitative research methods, such as participant observation, key informant interviews and focus group discussions, as a method of gathering data; and
- Grounded theory (Glaser, 1992), as an approach to interacting with and making sense of the data.

These approaches were combined as a BMI training intervention was piloted in one health facility in one urban setting and implemented in a number of other facilities in another urban setting. This was a repetition of a qualitative pre- and post-test design and yielded four feasibility case studies (although a case study approach was not part of the original design). The use of these approaches and processes is explained and justified as follows.

### *3.2.1 Dealing with complexity*

This thesis was broadly positioned within a qualitative paradigm for a number of reasons. Qualitative methods seemed most appropriate for dealing with an emerging study design, for understanding a complex intervention and context, and for answering the study's research questions. The flexibility and depth associated with qualitative methods (Butterfoss, Francisco, & Capwell, 2000) were helpful in dealing with the study's complexity.

Within the context of the larger AFDOT study, there were a number of modifications to the study methodology. The AFDOT study was originally designed as a multi-centre randomised controlled trial of DOT for TB in sub-Saharan Africa, but this design changed by late 2001 as more collaborators became involved and the preliminary results of the studies (described in 2.1.1) emerged. Dr Dick and others involved with a study of the effectiveness of training for nurses on a PCA, critical reflection and quality improvement (Lewin et al., 2005) were unsatisfied with the answers they were getting from a trial methodology (J. Dick, personal communication, 7 January 2002). Although some qualitative work was done to understand the context and explain what happened, it was felt that this 'qualitative mop-up' (L. Wilbraham, personal communication, 17 May 2002) provided insufficient information regarding which aspects of the patient-centred intervention design and the process of its implementation made it more or less likely to be put into practice. This required new questions about the feasibility of interventions designed with patient-centredness in mind, the process of implementing them and the contexts in which they are expected to be implemented.

These types of sentiments are echoed by other authors who feel that qualitative methodologies are more helpful than trial methodologies for understanding complex interventions that are often difficult to define (Campbell et al., 2000; Green & Britten, 1998; Rollnick, 2001). BMI was

understood to be a complex intervention because it consists of multiple skills and tools that can be tailored in the way that they are presented by trainers, used by practitioners and responded to by patients. This complexity was even deeper since the BMI component included in this thesis was only one component of an intervention package within the larger AFDOT study. These layers of personalised implementation and their links with other interventions were further compounded by the characteristics of the constantly changing context in which they were implemented (described in Chapter 1).

The third area of complexity in the study design of this thesis was its ongoing development throughout the project. Although the study methodology was articulated early on, it continued to develop throughout the study period through an iterative and deliberative process. Researchers adapted and clarified the existing research questions and developed new ones in response to the emerging data and implementation challenges. This intertwined the study design with the intervention design and implementation process.

Qualitative research can be seen as an “evolutionary learning process” rather than sequential planning and implementation through linear steps (Piantanida and Garman 1999, p.1). Qualitative studies tend to have less rigid protocols and rely on an iterative process and develop and respond well to their context and unexpected events (Butterfoss et al., 2000). However, the researchers felt the need to balance the flexibility with some structure as the project developed and its complexities emerged. A clarificative evaluation framework (Owen, 1999) seemed to provide useful tools for managing the developments in the study design. Clarificative evaluation frameworks are intended to help programme managers to improve (Owen, 1999):

- the way they articulate their programmes;
- the thinking and logic behind their programmes;
- the likelihood that the programme can be implemented successfully; and
- the management decisions during and after implementation.

Often evaluators work in collaboration with managers to develop diagrams and tables to help achieve these improvements (Owen, 1999). Although typically used to spell out the criteria by which a programme is monitored and evaluated, the present study developed a clarificative evaluation framework to manage the emerging research questions in relation to the interventions, intervention logic and materials in the study. A clarificative ‘evaluation’ framework table in Addendum C shows how the present study fits within the context of other interventions designed to enhance patient-centredness. The shaded areas of the table show which areas were addressed by the present thesis.

This framework has some similarities to other commonly used programme cycle management tools such as logical frameworks, but was used to manage the development of the methodology described next.

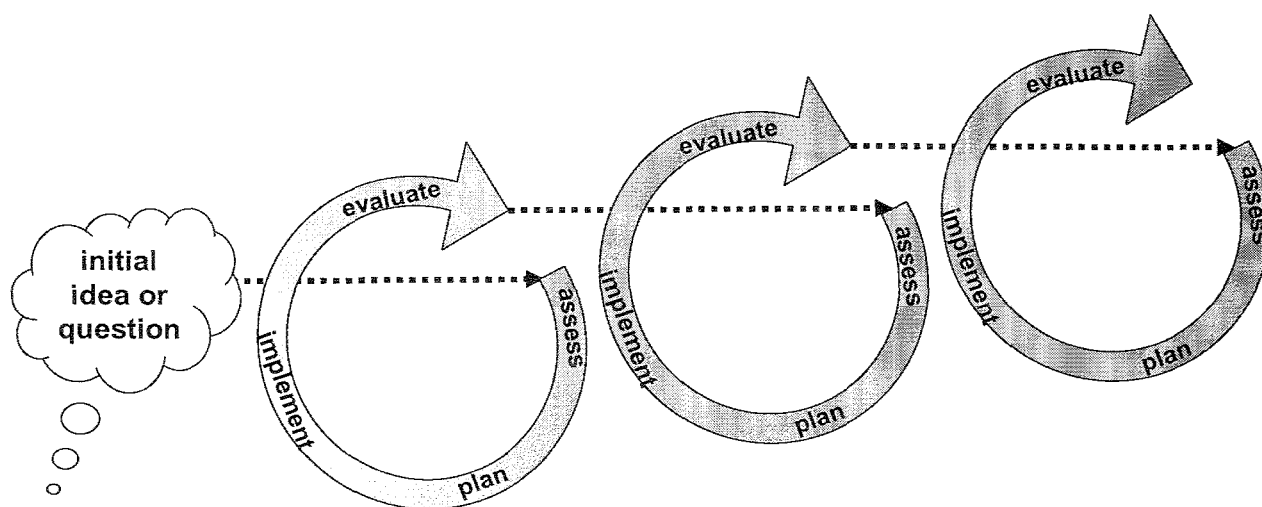
### 3.2.2 Elements of the study methodology

The complexity of the research project challenged researchers to find methodologies that were both trustworthy and implementable with the time and resources available in the study context. The study included elements of participatory action research and grounded theory methodologies.

#### Participation and action

The study methodology included elements of participatory action research. The study's approach to participation and action is perhaps best associated with the approach of Lewin (Greenwood & Levin, 1988) that aims to find practical solutions to problems within real-life situations, in contexts of continuous social change. Lewin is widely credited for coining the term 'action research' (Greenwood & Levin, 1988). He described the 'action' element of the participatory action research process as a sequence of cycles or spirals (Reason, 2001). Each cycle involves identifying an action-oriented idea or research question, assessing it by gathering preliminary information, planning how it will be implemented based on this information, implementing this action, then evaluating this implementation before moving into the next cycle, where the original idea would be adjusted or a new idea would be identified, and so on (Greenwood, 1994). A simplified representation of this cyclical process is presented in Figure 3.1.

**Figure 3.1** A graphical representation of the development of ideas through cycles of action.



It was suggested that the study was more 'participative' than 'participatory' because study

participants' involvement was valued, but only to a certain extent (I. Buskens, personal communication, 5 December 2003). Participatory action research has its roots in liberalist movements which saw it as a tool for promoting social change (Reason, 2001). Health providers and managers were seen as central to this thesis. (The larger study also included the perspectives of patients.) These people were given the opportunity to implement or receive BMI among the study interventions – they were involved directly in the implementation process, adapting interventions, and were asked to share their perspectives on the process. Yet when it came to key intervention design decisions, their involvement was indirect or minimal at best. While decision-making was shared, it was ultimately the responsibility of the core research team. Other stakeholders participated within these limited roles rather than becoming integral to the research team. They were not involved in making decisions about the study methodology, for example. This 'participative' approach developed out of concern about the impact of stronger participant involvement on the functioning of an already overburdened health service. It also allowed researchers to shape and guide the research in a way that was congruent with the theoretical foundation and philosophy behind the research questions. Thus, even though the thesis had an orientation of change and participation, it was not closely aligned with the very same liberalist ideals originally associated with participatory action research.

Having said this, the research questions and the service delivery had some complementary and supportive roles at times. The study aimed to place an emphasis on action, pragmatism and quality improvement in service delivery. This demanded that decisions about the design, implementation and evaluation of the interventions balance the need for trustworthy and thorough research methodologies with the need for quick and applicable strategies for the service delivery context. This took into account the organic way that the health system functions and that key decisions about policy and care are made.

### **Grounded theory**

In addition to this approach to participation and action, the study used grounded theory. Grounded theory is a way of working with qualitative data from a particular context in order to allow categories of meaning to develop as the researcher interacts with the data (Willig, 2001). This process links the categories that are discovered and yields a context-specific theory about the phenomenon or the set of experiences being studied (Glaser & Strauss, 1967; Strauss & Corbin, 1990). Although Glaser and Strauss (1967) pioneered this approach together, their views about the nature of grounded theory later diverged (Willig, 2001). Strauss and Corbin (1990) provided a more defined explanation of how one goes about working through the data in a methodical way, but Glaser reacted strongly against

this (Glaser, 1992). He said that their description of grounded theory was too prescriptive and that researchers using this approach forced meaning out of the data rather than allowing categories to emerge from the data (Glaser, 1992). Instead, Glaser promotes a purely inductive approach where researchers let the methodology and meaning be discovered gradually as the data and the researchers' interpretations accumulate (Willig, 2001).

The present study largely aligned itself with Glaser's (1992) understanding of grounded theory as a purely inductive process, since it was found to be helpful in the following ways. Firstly, it is essentially a more 'bottom up' approach to understanding social processes, and since the topic of the present study was about introducing a more 'bottom up' approach to communication in a hierarchical health system with a 'top down' policy, it seemed more appropriate. The stronger emphasis on induction seemed more congruent with the flexibility and tailoring implied in BMI and a PCA. Secondly, the data had a number of sources and came in a variety of formats (described below), making Glaser's approach more efficient and practical for managing this volume of diverse data and material and producing more timely results. Thirdly, the evolution of the project methodology seemed to gravitate naturally towards this type of approach as the research questions and clarificative evaluation framework became more lucid.

However, there are also elements that appeared to be aligned with Strauss and Corbin's (1990) version of grounded theory, which advocates for including some deductive thinking. Early on in the study, before grounded theory was identified as a suitable study methodology, research questions were developed and theory and literature were reviewed. This is something which Glaser would probably discourage because it would generate preconceived ideas which would distract the researcher from what the data were saying (Willig, 2001). However, other authors on grounded theory would argue that these types of preconceived ideas would be present anyway, and that reflexivity would be required to keep researchers more conscious of what is emerging from the data (Willig, 2001). This type of reflexivity was arguably present, since there was evidence that research questions, theory and literature were merely a preliminary starting point and were changed and adjusted as the project developed. Others would stress that there is no problem with an early literature review, provided it is not prioritised over other data (Willig, 2001).

### *3.2.3 Mix of methods and materials*

Since the present study had a number of aims and functions that developed as the study progressed, a mixture of research methods seemed appropriate. The methods and materials used in this thesis were almost exclusively qualitative in nature. These included:

- Participant observation of provider-patient interaction, provider-provider interaction and provider-manager interaction that was recorded in written field notes and meeting reports;
- Participant observation of interactions among members of the research team that were recorded in reports, field notes and audio-recordings;
- Interviews with the managers, health providers and patients that were written down, audio-taped and selectively transcribed;
- Focus groups with the managers, health providers and patients that were written down, audio-taped and selectively transcribed;
- Written training materials associated with the design and implementation process, such as plans, outlines, skill guidelines, and evaluation sheets (some of which included ratings); and
- Training sessions that were video- and audio-recorded, selectively transcribed and supported with trainers' field notes.

The use of validated measures and tools proved to be challenging in the study setting. For example, researchers attempted to use a measure of the patient-centredness of observed interactions between TB patients and health providers (Henbest & Stewart, 1989), but found the measure difficult to apply in the health facilities. The tool was based on the assumption that patient-centred interactions are private one-on-one consultations – a practice that proved to be unusual in the study setting.

As a result, researchers experimented with and developed a number of tools and guidelines through the research process to support the data collection methods. They sought to develop participant observation checklists and guidelines. Initially unsure of what to look for, they started out by describing as much of what they saw as possible. As potential barriers and facilitators of a PCA were identified during observations, a training design emerged and preliminary data analysis took place, researchers were able to look for more specific aspects of what they were observing. This theoretical sampling was never finalised into an observation checklist, but researchers used their discussions and field notes to explore common focus areas for observation. Interview schedules, reporting formats and training guidelines were developed in a similar way and were used flexibly by researchers and facilitators (see Addendum E for an example).

Training materials, participant guidelines and written feedback forms were much more concrete by the end of the study (see Addendum D for an example). Written feedback forms attempted to elicit participants' views through a series of open-ended and closed-ended questions (e.g. multiple-choice questions or rating scales). One commonly used form for eliciting participants' views was the decision balance sheet. This was based on the concept of ambivalence that underpins MI. The sheet



consists of four quadrants with space for participants to jot down their thoughts and feelings about a particular behaviour choice: (1) the pros and (2) cons of maintaining a current behaviour or set of behaviours and (3) the pros and (4) cons of changing that behaviour. This concept was used for eliciting verbal and/or written feedback during training sessions and focus group discussions. These tools and guidelines were not standardised or validated in the traditional sense of the word, but were rather used as an approach for generating different types of data.

### 3.3 Managing people, data and the research process

#### 3.3.1 *Settings, participants and access*

The study involved participants from one health facility in Port Elizabeth in the Eastern Cape Province of South Africa (to pilot BMI training and the research process), followed by a larger group of participants associated with three health facilities in Cape Town in the Western Cape Province. These settings are described in greater detail in section 4, 'Results and Discussion'; however, the participants, including researchers, health service management, staff and patients, were identified purposefully, according to the strategic role they played. Health facility-based lay health workers were included, while those that were only involved in community-based TB treatment were excluded on the grounds that the focus of this thesis was on patient-provider interactions in health facilities. Patients were involved insofar as they were observed during interactions with staff and fellow patients in health facilities. Their perspectives on the service that they had received were also elicited for the larger AFDOT study, but these data were excluded as they fell outside of the scope of the present study purpose<sup>6</sup>. These participants were initially involved using purposive sampling, later followed by theoretical sampling. This was based on their level of interest in the study, their available time and resources, and the researchers' perceptions of their readiness to change.

Sites were selected based on:

- degree of interest and readiness to change of managers and staff;
- volume of patients;
- a basic level of performance of their TB service (such as cure rate);
- variation in ethnic groups;
- geographical accessibility; and
- constraints on the resources and time of managers and staff.

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<sup>6</sup> The scope of the present study had to be narrowed significantly as the researcher was challenged to select a manageable portion of the larger study that was appropriate for a Master's level thesis.

In this study, researchers requested permission from top and middle management to gain access to facilities. Middle and lower management were involved in identifying and engaging potential facilities and played a role in the design, implementation and evaluation process of the study. TB staff at potential facilities had the final say as to whether their facilities should be involved in the study. Individual health providers also had the choice of whether or not to be involved in the study. This was done through individual and group discussions and presentations at each of these levels.

Regular reflection and feedback was essential and meetings with staff fulfilled this function. For participating facilities, progress was fed back to participants and discussed in order to enhance the grassroots functioning of the intervention. A steering committee consisting of key managers and practitioners from health services, non-governmental organisations and academic institutions was established at the early stages of the project. Their role as gatekeepers, advisors and stakeholders was meant to shape the direction of the project at quarterly meetings. However, attendance of these meetings became poorer as coordinating suitable dates became increasingly difficult. Academic collaboration took place with international AFDOT partners in the form of emails and telephone calls, annual reports and meetings. These partnerships on different levels were expected to ensure appropriate access to participants and a spirit of collaboration. More detailed descriptions of the participants, sites, and the process of gaining access and participation are included in the results section.

### *3.3.2 Research team and data collection*

Members of the South African AFDOT research team were responsible for gathering the data. These core members included:

- Dr Judy Dick (JD) was a senior scientist at the Health Systems Research Unit of the Medical Research Council. She was the principal investigator of the South African AFDOT study which the present thesis is drawn from, and she has extensive experience in research related to TB treatment adherence. She conceptualised the study design and recruited Sheldon Allen to coordinate its implementation. JD resigned from her full-time position at the Medical Research Council in December 2002, but remained closely involved for the full duration of the study. She was not directly involved in gathering data, but played a role in analysis.
- Sheldon Allen (SA), a registered social worker with experience in training health providers on consultation skills. He was largely responsible for coordinating the implementation of the South African AFDOT study and the design and implementation of the BMI training. He

was involved in the study on a full-time basis from January 2002 to July 2004. SA gathered the project data and analysed the BMI-related data for the purposes of this thesis.

- Lindy Wilbraham (LW), a methodologist from a psychology background with experience in health promotion research. She worked at the Health Systems Research Unit from April 2002 to June 2003 and became closely involved in supporting the AFDOT project and developing its methodology. LW gathered observational data regarding patient-provider communication, the health facility contexts and training. After resigning from her position she remained involved in the study, although to a lesser extent.
- Professor Leslie Swartz (LS), the University supervisor for this thesis, was not only responsible for providing guidance on the thesis, but was involved in conducting observations of patient-provider communication and BMI training and participated in a number of presentations and meetings related to AFDOT.
- Liz Rose (LR), a nursing manager for the local health authority in Cape Town, has extensive TB programme experience and was involved in training TB staff in previous studies leading up to AFDOT. LR was involved on an advisory basis throughout the life of the project, but was seconded to the Medical Research Council on a part-time basis during 2003. She was a co-facilitator of the BMI training and gathered observational data related to patient-provider communication, the dynamics among clinic staff and managers and the training.
- Nomfanelo Plaatjie (NP), a social worker with experience in the field of substance abuse, HIV/AIDS, applying MI and training health staff to use it. NP was employed from May 2003 to December 2003 to help to design and implement the BMI training and gather observational data in health facilities.
- Alan Millar (AM) has a background in journalism and international development and was responsible for coordinating the implementation of the AFDOT project's prepacked medication system and photo-novella. He was employed by the Health Systems Research Unit from February 2004 to July 2004.
- Hennie Schoeman (HS), a TB researcher with experience in applying a variety of research methods. HS was involved in an advisory capacity throughout the project and was contracted to coordinate a study of TB patient perceptions of the care they were receiving at the project facilities (not included in this thesis) between March and June 2004. He also gathered observational data regarding the dynamics among health facility staff during this time.

The contacts between researchers and participants are summarised in Table 3.2 (Port Elizabeth) and Table 3.3 (Cape Town) below.

**Table 3.2** Contacts between researchers and participants in Port Elizabeth.

Date	Nature of researcher-participant contact	Researchers
February 2002	Identified potential pilot site with an improvement leader	JD, SA
March 2002	Visited potential pilot site to discuss collaboration with staff and management and get approval from authorities	SA
May 2002	Finalised an agreement between AFDOT and the relevant local authority health managers	SA
July 2002	Observed interactions between facility/TB management and staff and between TB staff and patients, discussed perceptions of current practice and negotiated training sessions	SA, LW
July 2002	Ran the first two pilot training sessions	SA, LS
August 2002	Ran the second two pilot training sessions	SA, LW
December 2002	Ran a follow-up training and evaluation session	SA

**Table 3.3** Contacts between researchers and participants in Cape Town.

Date	Nature of researcher-participant contact	Researchers
January 2002	Visited potential project sites	SA, LR
March 2002	Negotiated access to two project sites with managers	JD, SA
December 2002	Identified two new potential project sites	JD, SA
January 2003	Met with local authority TB/HIV management to renegotiate access	JD, SA, LW
February 2003	Met TB/HIV coordinators, district and area managers to present criteria and identify new sites	JD, SA, LW
April 2003	Submitted protocol to local authority	SA
May 2003	Met with identified facility or TB managers, TB staff and TB/HIV coordinators to present project and assess readiness	SA, LR
	Observed interactions among facility/TB management and staff and between TB staff and patients	SA, LR, LW
June 2003	Negotiated training format, participants, dates and venue with facility staff and management, TB/HIV coordinators and local authority TB/HIV management	SA
July-August 2003	Facilitated BMI training sessions with TB staff and managers	SA, LR, NP
September 2003	Facilitated follow-up training session	SA, LR, NP

September-October 2003	Conducted follow-up support and observation visits to facilities	SA, LR, NP, LW
February-July 2004	Facility visits and observations related to the implementation of interventions other than BMI and client interviews (related observational data included in the analysis of this thesis, but other data such as client interview data excluded)	SA, AM, HS, NP
March 2004	Met with facility managers regarding difficulties involving a health facility in their district	SA, AM
June 2004	Ran focus groups with staff from remaining project health facilities regarding interventions	AM, HS

### 3.3.3 Data analysis

SA was primarily responsible for data analysis in this thesis. Glaser's inductive approach to grounded theory was used to analyse the large volumes of diverse data and materials generated by the study (Glaser, 1992), acknowledging the researcher's role in crafting a portrayal while interacting with the data (Willig, 2001). From this perspective it is not possible for researchers to avoid imposing categories of meaning onto the data. Instead, by immersing themselves in and interacting with the data, they generate a theory about the data. For this reason, other members of the research team involved in data gathering were involved in the analysis process.

The analysis process involved coding the data into categories throughout the project as the researchers and participants generated data and interacted with it. The starting point for the analysis was for researchers to familiarise themselves with the data soon after they were generated (Pope, Ziebland, & Mays, 1999; Ritchie & Spencer, 1993). This familiarisation process also involved reviewing notes, audio- and video-recordings later on. Early on these data were loosely coded into largely low-level, descriptive categories as the researchers developed more tentative, analytic categories. This was because at this stage it was unclear to the researcher what he should be looking for and how to interpret it. Memo-writing was used to track the development of the different categories and the grounded theory as the project progressed through its various phases (Willig, 2001). This took the form of a research diary which could show how some of the analytic themes grew stronger or weaker as the project progressed, leading up to development of a grounded theory of the feasibility of BMI in the study context.

As the study moved through various phases (as described earlier in the section regarding action research cycles) it generated different types of materials, from researchers and participants that were

coming from different perspectives and working in different settings. The constant comparative analysis method allowed researchers to identify similarities and differences between the categories associated with different researchers, participants, materials and settings (Willig, 2001). This could be understood both as a type of 'triangulation' (comparing different methods and sources) and as a qualitative approach to ensuring 'inter-rater reliability' (Mays & Pope, 2000).

More intensive discussions took place among researchers between each phase to clarify the categories and memos being generated, and these analyses were used to shape the direction of the next phase. The grounded theory concepts of theoretical sampling and theoretical sensitivity (Willig, 2001) were applied here, as the researchers identified incidents that could dispute or expand on emerging categories (theoretical sampling) and adjusted their research questions (as shown in the clarificative evaluation table in Addendum C) and plans to gather further data (theoretical sensitivity) (Willig, 2001). Negative cases (incidents that did not seem to fit with the categories generated) were also examined during team meetings. The categories that emerged also helped to clarify how certain types of materials tended to be clustered within particular categories and were more amenable to presentation.

By the end of the project the constant comparative analysis process was used to settle on a final set of analytical categories regarding BMI's feasibility. The researcher did not code and incorporate every possible piece of data, but rather finalised these categories as he moved towards theoretical saturation (Willig, 2001). These analytical categories were modified and adjusted as the researcher explored the apparent relationships between the categories. Some categories were then removed while others were merged to develop the grounded theory.

Theoretical sampling was also used to make decisions about which audio- and video-recorded materials to have transcribed and/or translated. This helped to manage the volume of material that was being produced. The quality of the data was assured through a number of methods. With the permission of participants, interviews and focus group discussions were taped. These tapes were reviewed and then the whole tape or certain sections would be transcribed. This was done by an independent transcriber (when it was decided to transcribe the whole tape) and reviewed by members of the research team and translated (where necessary). Trustworthiness and credibility of qualitative data were also assured through a triangulation process comparing baseline data, qualitative and quantitative findings as well as the accounts of different participants from different positions. Trustworthiness of the analysis process was ensured through participation of the whole research team.

### 3.3.4 *Ethics and quality*

The ethics of the study were addressed through ethical approval and informed consent, while the quality was addressed through triangulation, respondent validation, description of methods, reflexivity, attention to negative cases and fair dealing. The original research protocol for the project was submitted to Ethics Committees at Stellenbosch University and the Liverpool School of Tropical Medicine and received approval from both.

During the course of the study participants were asked for their informed consent. The research teams from both Burkina Faso and South Africa developed guidelines on the wording of the consent process, which varied according to the person being asked to participate. Written consent was sought and received from the health authorities involved, and then managers, facility managers and staff were approached. In this setting verbal consent was the norm and some of the dynamics of this process are examined in the results chapter that follows. Participants were briefed on the intended study, its process, its possible implications for them or their organisation, and the criteria for involvement. Participants were also informed of their right to refuse to be involved without retribution from researchers or superiors. As a result, efforts have been made to conceal the identity of the specific clinics, managers and health providers involved. Where participants revealed sensitive personal information, confidentiality was maintained by keeping it within the research or training team. Transcripts and tapes were stored safely, accessible only to the research team.

If potential participants chose to be involved, they were able to express their opinions freely or to withdraw without suffering any disadvantage or prejudice. Participants' involvement was not meant to disrupt the performance of their work. Training did involve time away from clinical work, but no more than usual. Times were structured in consultation with managers in order to minimise any negative impact on service delivery. Health providers were not asked to gather any data additional to their work. Where extra work was required, additional research personnel were employed to do this. It was requested of managers that staff rotation remain as stable as possible for the intervention period. During this time participating health providers were asked to use tools designed to enhance the patient-centredness of their normal interactions with patients. Every effort was taken to prevent adding pressure to an already over-burdened health service. Rather, interventions were designed to enhance health providers' functioning.

The informed consent process was more challenging when researchers were involved in observing interactions between health providers and patients. Researchers approached patients for their

consent through the health providers and this was difficult at times because the consent process was not part of their usual practice and disrupted what the researchers were there to observe. Since TB is a stigmatised disease (and increasingly so because of its association with HIV/AIDS), the identities of patients were also concealed. All interviews and focus groups were facilitated by appropriately trained researchers with an empathetic approach, stressing confidentiality. There were no apparent risks of harm or discomfort to investigators or members of the public.

As far as the quality of the study is concerned, the guidelines of Mays and Pope (2000) were used. These authors take a subtle realist position in their articulation of the dimensions of quality. These dimensions include the extent of:

- Triangulation of different methods or sources;
- Respondent validation;
- Clarity of data gathering and analysis methods presented;
- Researcher reflexivity in understanding how his or her role and the role of the design in shaping the outcome of the study;
- Exploration of negative cases and alternative explanations; and
- Fair dealing with a wide range of different perspectives.

The extent to which the present study met these criteria will be revisited in the discussion of the findings. However, it is worth highlighting the elements built in to the study design. Triangulation of the findings was achieved through constant comparative analysis of different materials (e.g. written responses to training, field notes, video recordings and transcripts) and sources (e.g. health facility managers, nursing staff, lay health workers and researchers), as described in the data analysis section. A number of materials were analysed and then fed back to participants for their validation of researchers' preliminary understanding of participant perspectives (the challenges of this process are discussed in the results chapter). The data gathering and analysis methods became clearer as the study developed (further details of data gathering are described in 3.2.3 and 3.3.2 and of the analysis process in 3.3.3 and the results chapter). However, the use of a more interpretive approach to grounded theory analysis and a mix of written, audio and video materials meant that it was harder to show a paper trail of the analysis system. Reflexivity (described in 3.2.2 and 3.3.6) was enhanced by the interaction between researchers with different professional backgrounds and individual note-taking and diarising of the research process and decisions. This also helped to ensure that exceptional cases emerged through the study (e.g. different ways of implementing BMI) and many potential explanations and perspectives were considered for the portrayal that was crafted.



### 3.3.5 *Dissemination*

This process and preliminary findings related to this thesis (and the larger AFDOT study which it forms part of) have been presented and discussed in a variety of forums as the study rationale, design and results emerged. The sharing and exchange of information regarding the project formed a part of the participatory design of the study and took place throughout the project period. This dissemination of study-related information has taken place with both local and international partners.

The design of the study and BMI were presented to and thrashed out with colleagues and collaborators within the Health Systems Research Unit of the Medical Research Council at various points during 2002 and 2003. The challenges of running the project were exchanged among the research team by means of corridor conversations, emails and regular meetings, and decisions regarding the direction of the project were made accordingly. Aspects of the study design and results were also discussed with participating TB staff and managers as they emerged. BMI and the study design were presented to the participating health authorities and managers during a number of meetings during 2002 and 2003, and the preliminary results were presented during one of the quarterly TB meetings held in Cape Town in 2004.

Study developments were also presented to international collaborators for feedback during annual meetings held in Cape Town in September 2001, Burkina Faso in September 2002 and Cape Town in December 2003. Activity reports and budgets were submitted to the European Commission each year for approval. BMI and preliminary findings were also presented to international audiences at world lung health conferences held in Montreal in 2002 and Paris in 2003 and 2004 respectively (Allen & Dick, 2003; Allen & Dick, 2004; Dick, Theobald, Allen, Macq, & Dembele, 2002). This dissemination is likely to continue in the form of academic papers.

### 3.3.6 *Reflexivity*

It is difficult to talk about reflexivity without speaking in the first person.<sup>7</sup> My approach was to try to focus increasingly on what participants were saying (and not saying), and the method used to manage my own preconceived ideas related to the study implementation process, the data and the results was to try to be aware of these ideas and where possible to acknowledge or suspend them. I tried to be more aware of my own perspective through the life of the project by exchanging ideas with colleagues and advisors and by expressing my thoughts and ideas to myself in a notebook. I found this process of moving between the clever ideas and thoughts of colleagues and my own ideas

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<sup>7</sup> The University of Stellenbosch Psychology Department requirements for theses and dissertations are that they are written in the third person.

extremely confusing in the early stages of the project, and sometimes valued the time I spent reflecting on the study alone. At other times, such as most of the time spent analysing data, I felt very alone and benefited from the helpful words of friends, colleagues and mentors.

I would by no means consider myself to be 'objective' and can think of a number of preconceptions I have which have shaped the direction of the present study and my relationship with colleagues, participants and data. No doubt there are many that do not spring to mind. BMI is something that I was familiar with and I believed it had the potential to make a positive contribution to improving TB care. My understanding was that I was drawn into the project primarily because of this and because it brought some fresh applications of a PCA that had not previously been attempted in TB treatment. Associated concepts, such as the idea of readiness to change, was something I had personally found helpful in my work both as a counsellor and a trainer in a work setting that addressed people's drug and alcohol-related problems. I had thoughts about what constitutes good communication in a health care situation and still tend to react against authoritarian styles of communication, health care and management. My ideal was that there should be congruency between the interpersonal approaches we were asking health providers to implement and the approaches of managers and researchers. Many of these ideas were adjusted or changed as I worked with and observed the health providers, managers and researchers involved.

Other aspects of my character that I feel influenced the design, implementation and results of this thesis are my interest in literature, finding pragmatic approaches to complex ideas and qualitative research. I enjoyed scouring for literature relevant to this study from a wide range of sources, I prefer to avoid complicated ways of explaining things, and I find research questions and results more personally meaningful if they rely on qualitative methods.

## Chapter 4: Results and Discussion

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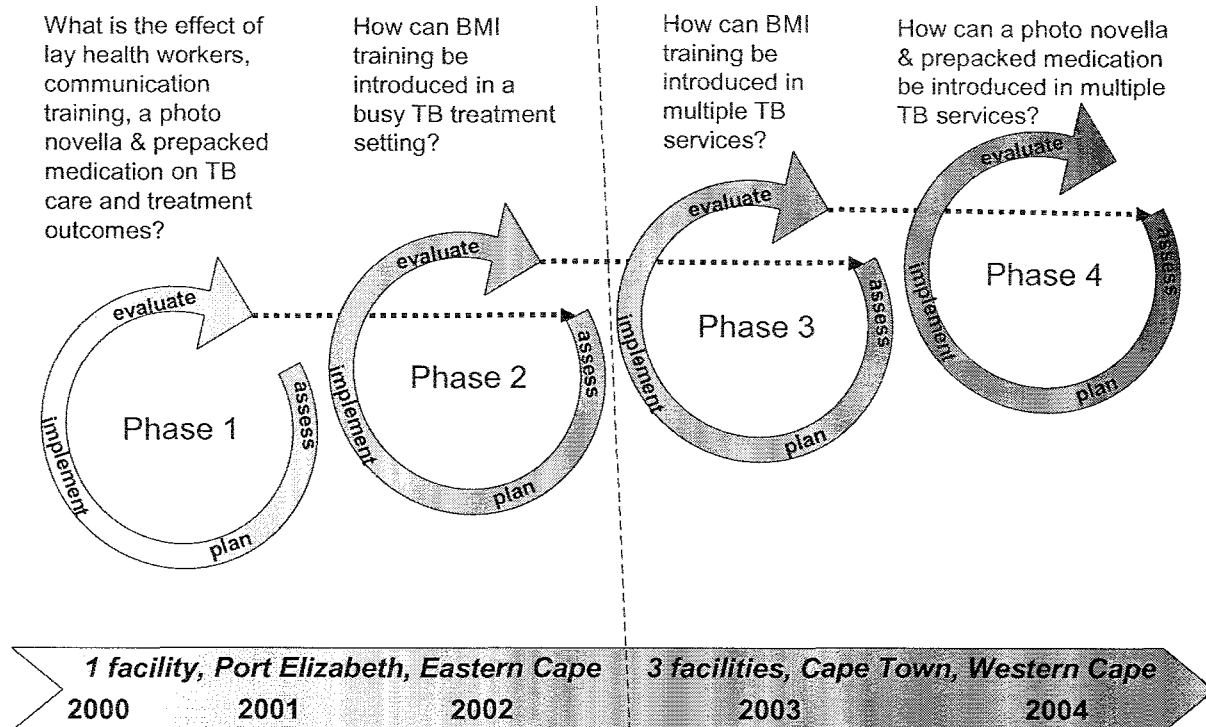
*The findings and discussion of the present study have been merged into a single chapter as they develop from descriptive, process-oriented categories of data to more analytical, interpretive categories. The bulk of this chapter is a narrative of the sequence of the events and interactions of those involved in the study – researchers, TB staff and managers. This narrative describes:*

- *the health facilities involved in the study and the busy settings in which TB treatment took place;*
- *the communication practices of facility-based TB staff;*
- *the process of designing, implementing and adapting training on BMI in this context; and*
- *the way that TB staff, managers and researchers responded during this process.*

*This process narrative categorisation of data covers the dynamics associated with pilot training at a single health facility in the Eastern Cape Province, followed by training for multiple health facilities in the Western Cape Province and the more intensive interactions with three of these facilities. The core analytical categories that were generated from implementation process data are then related into a grounded theory regarding the introduction of BMI in the study settings. This expresses the factors thought to make implementing this type of intervention more or less feasible in the context of DOT for TB patients in these types of busy South African health facilities.*

*The study findings are discussed as a conclusion to this chapter. Aspects of their quality and trustworthiness are pointed out as well as their limitations. In addition to their significance, the results are examined in relation to the rest of this thesis and the larger AFDOT study. The study findings are reviewed in relation to theory and more recent literature on the topic. Finally, recommendations are made for future research.*

The implementation of the South African component of the AFDOT research project was complex as the rationale, intervention design, research methods, participants and the approach to data analysis developed during the course of the study. Decisions were made by the members of the research team in response to the feedback they were receiving from colleagues, collaborators, health authorities, managers and facility staff, and according to what they perceived as meaningful and possible to implement during the time available to them. This complicated, messy process therefore involved multiple activities being simultaneously implemented – often for contrasting purposes. In order to clarify the implementation process that emerged, the larger AFDOT study has been diagrammatically represented in Figure 4.1 as a sequence of four research cycles or phases.

**Figure 4.1** Phases of the AFDOT study in South Africa.

Although presented as discrete phases in the diagram above, these cycles overlapped without a neat sequence. For the purposes of the present thesis, only the findings of the second and third phases of the larger South African AFDOT study are described. Four implementation case studies emerged as the BMI training and study design were piloted in one facility in the Eastern Cape Province and later in three facilities in the Western Cape Province – referred to as facilities A, B, C and D.

## 4.1 BMI training pilot in facility A in Port Elizabeth

Interactions between members of the research team and the TB staff and managers associated with this facility took place during 2002. Kindly refer back to Table 3.2 for an overview of the contacts between the Cape Town-based researchers and the Port Elizabeth-based participants leading up to, during and after the BMI training pilot took place.

### 4.1.1 Access to and selection of facilities and participants

Identifying who to work with and what facility to work in and getting permission to work with them was a relatively efficient and convenient process, despite the fact that the research team was based about 650 km away from the facility that was selected. This facility had participated in a controlled

'before and after' study of the effectiveness of a multifaceted intervention on TB outcomes. The study data were being analysed and preliminary qualitative data were indicating that the patient-centred interview component of the study was not being implemented by staff [EH in SA field notes, February 2002]. It was decided that it was both in the interests of the local health authority management and the AFDOT project to extend and support this study by reinforcing the patient-centred interview component by piloting BMI training with facility staff [SA field notes, March 2002]. Some but not all of the TB staff had participated in the previous study.

Getting permission and gauging support for the BMI pilot was a more slippery process. The local authority health director, relevant TB and nursing managers, the facility manager and TB staff were approached to explore their support for the AFDOT BMI pilot. The TB/nursing services manager and the facility manager were the most enthusiastic about the potential of BMI [SA meeting report, March 2002]. The acting health director agreed to the extended support, although being concerned about possible lack of feedback and benefit to service delivery. The facility staff seemed supportive and agreed to the study [SA meeting report, March 2002]. There were indications that the BMI intervention may have been unclear to staff, and they were concerned about the project adding to their workload [SA meeting report, March 2002]. It was unclear what motivated them to agree to the pilot – whether it was the fact that the study would help them to continue to implement other components of the multifaceted intervention that they felt was working, whether their superiors and leaders had coerced them, or whether they were genuinely interested in the potential of the BMI [SA audio-recording and meeting report, July 2002].

#### *4.1.2 Health system management*

The health directorate was experiencing a traumatic period during the time that the BMI pilot was being conducted. Their popular former director had recently committed suicide and there was also major management restructuring pending [SA field notes, March 2002]. The nursing services manager was fulfilling multiple roles at the time and felt tired and overburdened [SA meeting report, March 2002]. The TB staff had remained comparatively stable at the facility during the study period. Some of TB staff who had been involved in this study were still working in the TB section of the clinic. This was not the norm in the rest of the clinic or in the rest of the local authority PHC clinics for that matter [SA field notes, March 2002]. There were no staff transfers out of the clinic during the pilot period, but there were some internal staff shifts to different sections of the clinic among non-TB staff. There were some differences of opinion among managers about the reason for keeping TB staff stable and whether this was something that should continue beyond the life of the project, outside of TB and outside of this particular facility [SA meeting report, July 2002].

#### 4.1.3 *Facility leadership*

The clinic doctor was the advocate for the BMI pilot. He was conducting the ‘before and after’ study as a Masters in Public Health thesis, and his charisma had played a key role in motivating the staff to participate in the study [SA field notes, July 2002]. The study had run out of resources to finalise the data collection and analysis, and so AFDOT funding was an additional benefit for his project. He was disappointed by the preliminary study results and was hopeful about the potential contribution of BMI to correct this area of the study intervention, which was perceived to be weak [SA field notes, March 2002]. Although his official role was as a clinician sharing his time between a number of PHC facilities, he seemed to have a great deal of influence due to his personality, his friendly style of working with people, and his position as a male doctor in a female nurse-run facility. The clinic manager seemed to have a great deal of respect for him and his contribution, despite the fact that she was the official clinic authority [SA meeting report, July 2002]. He also seemed to play multiple roles – as an improvement leader, an indirect authority, a staff member and a researcher, and was from a different race group and religion to almost all the staff. This seemed to make him both an ‘insider’ and an ‘outsider’ to the clinic staff. His attitude and intent are perhaps characterised in the following statement:

“... your clinic must be friendly, be patient-centred, must make it ‘I would love to go to that clinic’ – you know what I’m saying. And that is why the whole process of just today’s thing is to make sure that it is patient-friendly. You know, your patients go to [a neighbouring clinic], why? Food parcels are available right next door. They will go, they will travel right from Veeplaas, far away. It’s friendly, I’d love to go there and get something to eat.” [EH in audio-recording of meeting to discuss current practice, 1 July 2002]

#### 4.1.4 *TB treatment setting*

The facility was located in a peri-urban township in the Eastern Cape Province, where the majority of residents were from the Xhosa ethnic and language group. The PHC facility was fairly large and offered services including mother and child health, family planning, HIV counselling and testing, treatment for sexually transmitted infections (STIs), chronic conditions and TB, and other adult curative services. It had a TB case load of about 400 smear-positive patients per year (Wagner, 2001) at the time. The prepacked medication system and photo-novella had already been incorporated into the clinic-based and community-based TB treatment running from the facility as a part of the ‘before and after’ study.

The building had a U-shape with the main entrance at the outside base of the 'U' [SA observation notes, March 2002]. Staff described it as having a 'male' wing for services related to TB, HIV, STIs and chronic conditions, and a 'female' wing for mother and child health services such as immunisations and family planning [Nurses in audio-recording of meeting to discuss current practice, 1 July 2002]. Patient flow in the facility varied widely according to the time of day and the day of the week because patients were told to come in the mornings and certain services were only available on certain days of the week [SA field notes, July 2002]. The waiting halls and passages were congested, bustling places in the mornings with multiple queues snaking from one space to the next [LS observation notes, July 2002]. Patients would negotiate their way through the different queues and rooms until they found what they were looking for or a place to wait to be seen. By afternoon the numbers would often subside to only one or two queues and to a trickle of only a few patients.

Suspected and diagnosed TB patients would queue outside one of two rooms in the 'male' wing of the building – one for diagnosis and patient education and the other for daily DOT. The diagnostic/education room was crowded, with three desks where 2 or 3 staff members would be seated to deal with 2 or 3 patients who were seated together against one of the walls. The DOT room was more spacious, with a desk roughly in the centre of the room, metal cabinets containing patients' treatment lining two of the walls, a basin in one corner and a curtained off area for giving injections behind in the other. One researcher described this set-up as having 'sticky feng shui' [LW observation notes, July 2002].

#### *4.1.5 Staff interaction*

There appeared to be a fairly good spirit of camaraderie among the TB staff themselves, but there had been some tensions between this team and some of the rest of the clinic staff [SA meeting report, 2 July 2002]. There was some resentment from the rest of the staff because of the way that the TB team had been treated differently (e.g. no staff rotation, meetings, training, meals and other extra resources) during the previous research project. Some interpersonal conflict was reported during the pilot project period, but it was unclear whether this incident was related to the perceived preferential treatment, personalities or other issues [SA meeting report, 2 July 2002]. At the time there were no regular meetings to address this conflict or other management issues. These issues of conflict were raised during meetings with the TB staff and managers about the nature and content of the AFDOT pilot. After some discussion with the facility management and some debate among the research team, it was decided that the AFDOT pilot did not have the capacity to address these issues over such a short period [SA field notes, July 2002]. It was felt that focusing on resolving the conflict

might derail the main purpose of the pilot – developing the BMI intervention component. Instead, the research team and clinic management decided to have non-TB staff represented in the training. It was thought that this may diffuse some of the conflict, benefit the work of other staff, and allow them to support the implementation among the TB staff. This joint training activity seemed to improve the relationships between staff at the time [SA training notes, December 2002].

Other divisions, however, became clearer during the training. The clinic-based lay health workers who helped with patient education, DOT and defaulter tracing were largely marginalised, seemingly due to their limited formal education and their low positions in the clinic hierarchy [SA training notes, August 2002]. They said little or nothing during the training, in contrast to the confident way in which they went about their work, and their views would sometimes be cast aside by their seniors. Their voices were stronger during more practical training activities that did not require strong English literacy and a theoretical background. This, however, seemed to demonstrate both their low status in the clinic hierarchy and their valuable role as clinic-community brokers [SA training notes and audio-recording, August 2002].

#### *4.1.6 Staff-client interaction*

Accounts of the quality of interaction between staff and TB patients varied. The improvement leader felt that the TB staff were not showing enough empathy towards their patients [EH in SA meeting report 18 March 2002]. In his view they were not following their interview guidelines and were not using the innovations they had been given to improve the quality of their interactions with patients. He described their consultations as “mass interviews” [EH in SA meeting report, March 2002]. This was similar to researchers’ observations and accounts [SA observations, March; LW observations, July; and LS observations, August 2002]. Observed interactions seemed to be hampered by the poor use of available space, which meant that there was little or no room for private conversations about more sensitive topics like HIV/AIDS, sexual behaviour or substance abuse. The discussions that did take place were frequently interrupted by telephone calls, paperwork and conversations with other patients and staff. Open doors with activities in full view of patients queuing outside and the simultaneous cross-conversations between multiple TB staff and patients (in the case of the diagnostic room) made these interactions long, fragmented and public. The following observation describes aspects of this awkward arrangement:

“Three clinic staff share this small room (Sister, nurse & volunteer/advisor), and 3 patients are seen simultaneously. Desks are not in any way connected with the 3 patients’ chairs (in a row against a far wall). Communication criss-crosses this 2-3



metre space: talking has to be loud enough to carry the distance, and is completely non-private. For example, one patient got up from her chair and bent over the nurse's desk to talk about her 'women's troubles' – possibly because a male patient was sitting directly beside her and it was embarrassing to talk loudly about this (or in front of me, as observer)." [LW observations of diagnostic/admissions room, July 2002]

This was different to the ideal of 'patient-centred' interaction held by most of the research team – a brief, continuous and confidential conversation that allowed the patient to express his or her views and experiences [SA field notes, August 2002]. One member of the research team felt that this ideal may need to be challenged and that there may be other perspectives on these busy public interactions [LS observations, August 2002]. There were sometimes high volumes of patients, filling every seat and lining every wall. Newer patients struggled to navigate their way through the system but were told what to do next by fellow patients and staff [LW observations, July 2002]. The communication styles of staff varied according to staff member, patient and the room they were in and its function. Certain interactions were abrupt, with staff making little or no eye contact and yelling out instructions, rigidly following protocols or ignoring patients while sitting behind a desk and completing paperwork [LW observations, July 2002]. Other interactions were observed to be very friendly, public interactions, involving joking and teasing, especially with patients who had been coming to the clinic regularly for treatment:

“What I observed by contrast was in general a friendly and supportive approach to patients, with both the TB treatment room and the diagnostic room having the air of a bustling marketplace ... Conversation was loud and participated in by all staff, the patient in question, and at one point by another patient. The man had just been diagnosed and as he worked inconvenient and inconsistent shifts there was a problem with how he would get DOTS. Lots of discussion went back and forth about the logistics, and eventually a pragmatic but less than ideal solution was arrived at.” [LS observations, August 2002]

“There are jokes! There are lots of jokes. Often between the patients themselves. And about silly things. Like someone won't be able to find their box and then they laugh and everybody helps and the nurse directs them 'Open there, look there' and then there is laughter because they still can't find it. So there's jokes, it's sort of funny. The

situation is made funny. Ja, it's quite light actually." [LW in meeting with staff to discuss current practices, July 2002]

Staff took the poorest of the patients much more seriously. Some patients were struggling to take their treatment on an empty stomach, and staff were observed showing genuine concern for their well-being, often giving them a few slices of bread that had been supplied by an NGO for children on TB treatment.

"Retreatment patients needed more care and communication; they appeared sicker, hungry and unkempt, more confused, often asked the nurse for bread, and had to wait until the nurse was free/available to give their injections. The nurse did not seem to talk while giving injections behind the treatment curtain." [LW observations, July 2002]

"I was interested in how the lay worker dealt with giving bread out to patients. This bread is meant for children but clearly many of the clients were close to starvation. Commonly the lay worker said 'This is for the children' when handing out bread taken from her desk drawer, but it appeared that she and the patients had an implicit contract that indicated the food was for the patient." [LS observations, August 2002]

Staff accounts of their relationships and interactions with their patients covered little regarding their communication practices. However, the one characteristic of their communication that they spoke of was the joking and banter:

"They feel comfortable because you find that there are jokes." [TB nurse in meeting to discuss current practices, July 2002]

"So you'll often hear them talking to them, 'Are you not drunk today? Why are you just like this?', and there will be that conversation between the nurse and the patient who says 'No, no, Sister, there's nothing.' ... And I say 'Why are you like this? Why are you so lively today?' .... You'll find sometimes they are saying those things to clients. And the other clients are every time joking-joking and so they know when he just steps in there, there starts joking and they joke together, the nurse and the clients." [Manager in meeting to discuss current practices, July 2002]

They also acknowledged the impact of having limited opportunities for confidential conversations with patients:

“... the congestion, because it’s myself, [the lay health worker] and [another TB sister] – in the same room. Sister will call her patient, I call mine and [the lay health worker] will call. There are three patients with TB in that small room.” [TB nurse in meeting to discuss current practices, July 2002]

“The lack of privacy in the consultation rooms makes it harder for patients to speak about some of the important difficulties they are experiencing.” [TB nurse in introductory meeting, March 2002]

They spoke fondly of a special rapport that developed with and between patients over time:

“...I am calling them the queens and kings of this clinic. When I am telling the others not to sit there, I am telling them, these benches are for the kings and queens.” [TB nurse in meeting to discuss current practices, July 2002]

“Sometimes they will tell you that they are feeling very much better. So, talking to the others also encouraged them to take treatment because it’s happened a lot ... on the bench...” [TB nurse in meeting to discuss current practices, July 2002]

“The other thing that I’ve noticed [after 3 or 4 months of treatment], I’ve noticed that the bonding increased. They can even, they call [the nurses] by names, they know them.” [Manager in meeting to discuss current practices, July 2002]

“But out of his own he mentioned, ‘You know, it’s been nice being here. I need to come back and say thank you.’ I need to say that to the Sisters.” [EH about a grateful patient in meeting to discuss current practices, July 2002]

“Now I was just asking him, ‘Why don’t you want to go now? You always say tomorrow, tomorrow.’ ‘It’s only because I don’t want to go away from this place.’” [TB nurse about a grateful patient in meeting to discuss current practices, July 2002]

“The good thing is that even if they are discharged, they know you from outside. They will greet you ‘This is my Sister! Sister!’ And sometimes you don’t even know him, but he will greet you and that is the good thing about them. They cannot forget us ... because there are so many, we tend to forget them, but they don’t forget us.”  
[Manager about a grateful patient in meeting to discuss current practices, July 2002]

When asked about their current practices, staff tended to point out the barriers they experienced in trying to do their work. These included the risk of getting infected with TB, time pressures, limited resources, dealing with defaulters and working with very needy patients who struggled to swallow pills and produce sputum. These tended to be listed as explanations for poor outcomes rather than as poor consultations. Staff were concerned about their close proximity to infectious patients in the diagnostic/education room:

“There are three patients with TB in that small room. Others will be coughing and all that sort of thing. So I just think even now that God is with us, that even at this point there is no nurse with TB in that room. Otherwise it’s congestion and the space, it’s, it will be better if the patient is there at that distance. It’s nearer, especially with [the lay health worker] because she is just next to them on the right.” [TB nurse in meeting to discuss current practices, July 2002]

This anxiety and need for distance may have affected the quality of their consultations. Limited time also inhibited consultations and their work with lay health workers and patients in the community:

“Not enough consultation time to allow patients to open up. There used to be more time available to discuss problems with patients in the location, but there is much less time available now.” [TB nurse in introductory meeting, March 2002]

“There is a shortage of time and as a result the team is unable to meet frequently with volunteers and follow-up on the defaulters that have been traced.” [Manager in introductory meeting, March 2002]

Time pressures were typically viewed as a result of the limited number of personnel available:

“The problem is the [staff] shortage. Sometimes you do have a shortage, you are unable to go out. For instance, from the leave now, I’m sure [the lay health worker]

was not able to go out with anybody when I was on leave. And sometimes I had to go to a meeting on that Thursday and then that falls away.” [Manager in meeting to discuss current practices, July 2002]

Dealing with ‘defaulters’ was another source of frustration:

“Because [the TB patients] are feeling very much alright [after 2 months] ... So somebody will just decide, ‘I am alright now, so there’s no need to take the treatment anymore.’ But we do educate them that even if he or she is feeling better, he is better but he is not cured. So, he must take the treatment up to the time given to him. It’s either 8 or 6 months. You know, those who are taking treatment for 8 months, they are experts. They’ll tell you, ‘No, I’ve been to TB treatment and I was cured there’ – meanwhile he defaulted. And they will run around. If a [neighbouring clinic’s] patient comes here, we’ll do the investigation and get the results. If they are positive, they tell you they don’t want to go to [that clinic]. Sometimes they don’t want to go to [that clinic] because he has defaulted there. He is known there. He has come here to be a new patient. So those are the things we are getting amongst them. Some are using the [local] area addresses, because they don’t want to go to their nearest clinics.” [TB nurse in meeting to discuss current practices, July 2002]

Poverty and hunger were described as important factors preventing patients from completing their full course of treatment:

“There are those who start defaulting because they said the tablets are too much for them. The others will tell you that they are hungry; they cannot take these tablets ... that’s why they are defaulting.” [Manager in meeting to discuss current practices, July 2002]

“They do come here without anything to eat. They will tell you, ‘Even the last night we haven’t got anything. Even this morning I just woke up and came to the clinic.’ That bread actually, it’s made for children. It’s a donation from [a TB NGO]. But we do give them, those who said, ‘Is there any piece of bread?’ We just give four slices per patient. Because there are a lot of them. So, there is that. The poor people, they have nothing.” [TB nurse in meeting to discuss current practices, July 2002]

They felt their treatment outcomes were poorer because many of their patients were not able to produce the sputum required for verifying them as being ‘cured’:

“The difficulty is for them to cough, especially for the second time. Because they are almost all of them dry. They cannot and the sputum is wanted because if you discharge them as cured, they must be able to produce sputum. That’s what we are running for. Because even if you discharge them as completion, it will not be counted as that you have cured that patient. So it’s really a problem because they will tell you, ‘I cannot cough. I am dry.’ And we are looking at cured and not completion.”

[Manager in meeting to discuss current practices, July 2002]

#### *4.1.7 Researcher-participant interaction*

Overall, researchers seemed to be well-liked by the clinic staff and management, despite the fact that their interactions were brief, infrequent and spread over several months. Staff were willing to have the researchers observe them working and tape-record meetings. A mutual affection had developed between researchers and participants by the end of the pilot [SA training notes, December 2002].

Discussions with staff about their current communication practices were awkward at times [SA field notes, July 2002]. Researchers found trying to focus larger group discussions on this subject difficult as staff seemed to avoid describing what was happening and would rather discuss the ideals of what should be happening and the perceived barriers preventing these ideals from being realised (as described earlier). This may have been due to the presence of some of their managers who tended to show more of an interest in whether guidelines and protocols were being followed or not [SA meeting report, July 2002]. When practice was discussed, they failed to find consensus among themselves and their accounts were often different to what researchers observed and perceived. Researchers seldom challenged staff about the differences between their accounts of their practice and what the researchers had observed. This discomfort in the relationship between researchers and staff may have been related to the roles they were placed in. The researchers felt they were given elevated status by staff and managers because of their position as ‘medical scientists’ (often assumed to be medical doctors), ‘experts’ and also ‘donors’ with resources that could be used to reduce workloads and maintain or improve current service delivery [SA field notes, July 2002].

Researchers’ roles began to shift towards trainers. This increased polite, often unspoken, battles between researchers who were proposing changes in practice and health providers who were not very vocal about concerns they may have had about the proposed interventions [SA training notes,

July 2002]. Researchers tried to encourage participants to openly express any objections or reservations, but only one or two were expressed. When asked to complete tasks between training sessions, an ‘expert teacher’-‘naughty student’ dynamic was hard to avoid. It seemed that many participants had not completed their tasks and this made it awkward when people were asked to share their experiences of trying to implement the tasks [SA training notes, July 2002]. Staff did, however, become more vocal about things they liked or disliked about the proposed interventions as the training became more practical and they were asked to complete tasks during and between training sessions. Generally, staff with more senior positions or more TB experience had more to say than others. Researchers felt that they were not getting an accurate picture of staff perceptions and use of the proposed interventions. Participants appeared to battle with the concepts and skills being presented to them, but also wanted to please the researchers [SA training notes, August 2002].

#### *4.1.8 Nature and quality of the training process*

The pilot provided an excellent opportunity to get a sense of how well the training fitted with the practice and context of the facility staff and to adjust the training accordingly. Four 3-hour training sessions were divided into two visits in July and August and a follow-up training and evaluation session in December. SA facilitated each meeting and training session and was supported by LW and LS who separately observed the facility set-up, TB consultations, meetings and training sessions at each visit. SA conducted the preliminary visit and the follow-up training and evaluation session without other researchers present.

SA designed and prepared the training sessions and materials using his experience of BMI training for substance abuse-related problems. The design incorporated advice from other experienced trainers, LR, LW, LS and BM [SA report on training design meeting, May 2002]. The content covered elements of BMI, problem-solving and quality improvement. LW and LS provided in-session advice based on their observations. Sessions’ plans were discussed and adjusted accordingly.

The training sessions took place in a long, rectangular-shaped room in the ‘mother and child’ section of the clinic. The intention was to minimise disruptions to the clinic’s functioning and to avoid aggravating the transport problems that the clinic was experiencing [SA meeting report, July 2002]. Chairs were arranged in an oval shape in order to encourage participation. The training was well-attended by the nurses of various ranks from the TB room, the two lay health workers that were considered to be part of the team, some nurses from other sections of the clinic, two clerks, the clinic manager and her deputy, the nursing services manager, a nurse trainer from the local authority, the improvement leader and his assistant [SA training notes, July 2002].

Participants enjoyed the training sessions and seemed to appreciate the refreshments and a break from their normal routine. The brewing conflict (discussed earlier) seemed to be eased or suspended during the sessions. There were, however, a number of problematic aspects to the structure, content and facilitation of the training [SA training redesign meeting report, February 2003]. There were times when participants were not clear about what was being asked of them – particularly when asked to role-play or reflect on or analyse an activity or interaction [SA training notes, August 2002]. Some of the concepts presented seemed too theoretical for participants and they found applying them difficult [SA training notes August 2002]. Participants had no trouble sharing their daily experiences, but got stuck when asked to identify and apply practical ways of improving the situation. The first two sessions were more about understanding their context and practice and the last two were about trying some BMI skills and other potential improvements. It seemed that SA jumped too far ahead of the participants in the second half of the training [SA training notes, August 2002]:

“Felt like I was in a river with them and I’d been going downstream and I’d suddenly asked them to swim upstream. I was pushing and swimming and against the current and only one or two were following. The others seemed willing but were unsure of what I was asking them to do. All were struggling with the ‘how’ to do it.” [SA training notes, August 2002]

While the study objectives were achieved, the training or improvement objectives were not. Nonetheless, the training may have temporarily contributed towards a quality improvement outlook among managers and some staff.

#### *4.1.9 Extent and quality of training support and follow-up*

On-site support for the staff who were trying to apply the BMI skills was limited, since researchers/facilitators were only able to visit for a day or two at a time and the primary purpose of the pilot was to develop and adjust the training and materials to better suit the context. Training follow-up and evaluation consisted of a final session with training participants to hear their perceptions of the training content and style, validation of previous feedback and the applicability of the skills taught. The lack of post-training observation of staff practice meant that the proposed improvements were not reinforced and mentored, and researchers were not able to get to see if any aspect of the training was being applied in practice.



#### 4.1.10 Staff perceptions of training and skills presented

At the start of the training most participants seemed to have a clear idea about the main aims of the training – namely, improving communication skills and adherence to treatment [SA training notes, July 2002]. They expressed an interest in these motivational skills and understanding their patients' reasons for poor adherence to treatment [audio-recording of session 1, July 2002]. They particularly wanted to learn more about how to respond to the poverty of their most needy patients:

“I'd like to know because the patient themselves, they are always telling you about hunger and all that. They say they are coming from [a neighbouring clinic] where they come late here. They say, ‘We come from that clinic, we pick up things and we get something to eat’. So I don't know how to react.” [lay health worker in audio-recording of session 1, July 2002]

“And when you ask [the school child why she did not come for treatment], she will tell you that, ‘I was hungry, I didn't have anything to eat so I can't take the treatment on an empty stomach because it [makes me] feel sick.’ So I don't know how to tackle that.” [TB nurse in audio-recording of session 1, July 2002]

As the BMI approach was presented on video during the training, participants were asked to share their views of the advantages and disadvantages of BMI compared with their existing approaches by writing down their perceptions on a form [Decision balance sheets<sup>8</sup>, July 2002]. The themes regarding the perceived benefits of BMI were that it helped patients to talk openly and freely about their needs by creating a friendly atmosphere of privacy and comfort. They felt it involved patients more and gave them more responsibility for making decisions about their health. The participants felt that some patients may be more cooperative in response to this approach. Some also indicated that this approach may help to guide the practitioner in prioritising which problems to focus on, what information to provide or what may be realistic goals for change. Some participants also felt it may save time. To illustrate these themes, here are some quotes from participants on advantages of BMI [Decision balance sheets, July 2002]:

- “[The patient] may feel free to talk since it is a one-on-one in private.”
- “[The patient] is given the chance to choose from options.”
- “It would [give] the responsibility of health to the patients themselves.”

<sup>8</sup> A ‘decision balance sheet’ is a tool for assessing how a person thinks about a particular behaviour or set of behaviours. It consists of a sheet of paper that is divided into four quadrants that leave spaces for the participant to write down notes about: (1) the pros and (2) cons of maintaining a current behaviour, in relation to the (3) pros and (4) cons of adopting a new behaviour.

- “It is a guide for the practitioner to see which problem is of most concern to the patient.”
- “It decreases [the] amount of time spent consulting with a client, when problems are prioritised.”

On the other hand, participants felt there were a number of disadvantages to using the BMI approach that they observed [Decision balance sheets, July 2002]. According to them, patients were unlikely to discuss what the provider wanted because patients may still feel uncomfortable and avoid or be dishonest about more sensitive topics. Many also felt that the approach may not be effective in getting the patient to comply and change or maintain the behaviours they were asked to and that other approaches were more likely to work. Some indicated that they thought there was too little information given to the patient; only one topic would be covered and it consumed too much time at the expense of more important things like examinations. The approach was seen as inappropriate for some patients, like those with lower education levels. It may be viewed as disrespectful by older patients and certain patients expected to be directed, according to some participants. Some were also concerned that the freedom given to patients in this approach increased the risk that patients would take advantage of the health provider. The following barriers were listed by participants and demonstrate these themes [Decision balance sheets, July 2002]:

- “If you do not probe sometimes you do not get all the things you want to get.”
- “[Patients] can tell lies.”
- “Both client and practitioner may not be comfortable [discussing] problems when there are [barriers] (e.g. age, gender).”
- “Because of the options given, [the patient] may be [reluctant] to change his habits.”
- “It may be difficult to motivate change of lifestyle when problems are integrated.”
- “Miss out physical examination because of lots of talking.”

According to their written responses, they saw their current approaches as being helpful in a number of ways [Decision balance sheets, July 2002]. A strong theme that emerged was that participants felt their existing approaches were more educational and provided more information. Patients were also given the opportunity to speak and ask questions and felt comfortable and respected, as far as the participants were concerned. They felt that they were able to convince patients to change their behaviours. Their approaches were perceived to give practitioners more control over the timing of consultations and the topics covered and were more familiar to them and their patients. These were among the key points listed as benefits of their existing approaches [Decision balance sheets, July 2002]:

- “[Patients are] well informed about their problem”
- “Client feels free to talk and give chance to ask question”
- “Allow the [patient] to be more relaxed”
- “Abusive clients need to be convinced on some issues”
- “Defaulting will be less”
- “A more directed approach with the health provider being in charge of the agenda.”

On the negative side, the participants indicated that their approaches were not always effective and that patients did not necessarily feel comfortable sharing their concerns [Decision balance sheets, July 2002]. They also listed numerous structural problems that they believed were responsible, including staff shortages and limited time and space for private consultations with patients [Decision balance sheets, July 2002]:

- “They just get frightened of me so that it ends up having no communication between me and the patient”
- “[The patient] may not be listening because you are telling him what to do”
- “[My approach] allows only limited participation”
- “Others not at ease with Drs & nurses”
- “Rushing for the next patient”
- “No rooms for privacy.”

Staff were asked about their perceptions of the training once it had been completed. They indicated that they clearly understood the purpose of the training and the skills that were presented [SA training focus group report, December 2002]. To them, it was about improving their communication skills, attitudes and rapport with patients to make interactions more constructive [SA training focus group report, December 2002]:

“...the training was about good communication skills so that we improve the relationship between our patients and ourselves.” [Participant in training focus group, December 2002]

They also pointed out that it aimed to reduce wasted time, improve efficiency and make better use of patients’ time [SA training focus group report, December 2002]. Part of this training process, some believed, was about enabling staff to allow patients more responsibility for taking action to improve their health, and to take on more appropriate responsibility as health providers for things

they have influence over [SA training focus group report, December 2002]. This also involved taking clients' problems into consideration, even though they were often complex social problems [SA training focus group report, December 2002]. The training was perceived to be about motivating both staff and patients and improving communication among staff themselves.

“And I think also it was empowering us to be able to let the patient take the responsibility of him- or herself and their health ...” [Participant in training focus group, December 2002]

Some reported being more aware of the environment they were communicating in, their interactions with patients and patients' readiness for change [SA training focus group report, December 2002]. One participant suggested feeling less responsible for changing patients' behaviour and said they were listening more to their patients:

“I think it was eye-opening, you know... because many a time we tend to want to solve their problems or to deal with them quick-quick. They are only there to give us what's happening, why they are coming to the clinic. Immediately when she finishes up because you are rushing, you know, you just want to do everything for her and just say, 'Go'. So the training was so eye-opening for you and relaxing you so that you must not worry that much about the lots of patients that are coming in, but get more time, you know, to get more from the patient and let the patient speak more than he has.” [Participant in training focus group, December 2002]

“What I got out personally was ... speak less and listen more. Because what I found was that some of the patients they don't come out straight with whatever, they come roundabout and then you going on with that ... If you don't listen to what the person is saying [and] you don't always hear the words, but you hear the hidden meanings in-between. So I found that the training actually made me listen to them more and I actually find that here and there, there was someone that had a different problem to what they came for.” [Participant in training focus group, December 2002]

Practical examples of applying the skills presented were few and far between, suggesting that most did not feel they had used BMI [SA training focus group report, December 2002]. The skills of collaboratively setting an agenda and exploring importance and confidence were reportedly used, nonetheless. Participants had much more to say about what made BMI difficult for them to

implement [SA training focus group report, December 2002]. Work pressures, high patient loads, staff shortages and low morale were among the factors which they felt inhibited them:

“Although ja, it’s very useful, it’s time-consuming. Sometimes really you, when you think about it, you just say, ‘No, well these clients are so many’. And you have that attitude and that attitude will always guide you ... Because sometimes when you come here you decide ‘I am going to apply each and everything here today’, but the minute you come when you see the hall us full up, the attitude just changes. ‘When am I going to get finished with this queue?’ Really. It’s true. I think when the [Health] Department has taken more nurses I think it will be better for us and I can promise you we are going to do it. We are going to try, but now with the staff shortages you just want to cry in the morning.” [Participant in training focus group, December 2002]

“Sometimes you are sitting with that particular client, trying to listen to his or her problem, trying to solve it and so forth. The others they are talking outside, ‘They are sleeping inside there. Why are they so quiet? How long has that man been there? I’m sure they are sleeping.’” [Participant in training focus group, December 2002]

Some felt that patients and the community should take more responsibility for improving their own situations and the difficult conditions in the community and in the clinic. Patients were described as demanding and lazy [SA training focus group report, December 2002]. Using the BMI approach opened staff up to being abused or manipulated, and being more structured was better, according to some [SA training focus group report, December 2002]. Others suggested that some people prefer having authority figures, like clinic staff, make decisions on their behalf and weren’t accustomed to this kind of approach [SA training focus group report, December 2002]:

“It takes ... time for the patients to actually get used to talking to you and getting to a – whether it’s a solution or whatever medication that they need ... maybe that way we will increase compliance once we eventually get that ... mindset out.” [Participant: Zwide BMI training focus group, December 2002]

Although many seemed to struggle with the concepts and skills presented, staff appreciated the training process itself [LS training observations, July 2002]. They liked the fact that it was inclusive and that many people participated and had the opportunity to share experiences. One manager felt it

improved their teamwork and the communication between staff [SA training focus group report, December 2002]. A manager also suggested that they should meet more regularly as a team to deal with problems and focus on improvements. When asked, they had very few suggestions about how the training could be improved, except to focus on more consistent follow-up [SA training focus group report, December 2002]. Some felt they should take more responsibility for follow-up themselves and might benefit from a tool to assess how well they were applying the skills. It seemed that they were unable to sustain regular meetings for quality improvement and remained in crisis management mode [SA training focus group report, December 2002]:

“We thought of involving everybody at the clinic and we did one session. We said we will be meeting the next session to see how we are going on. But that didn’t take off because of the problems of the clinic and the meetings and all that things ... somebody must be here, somebody must be there. Always there is something that we have to attend to.” [Manager in training focus group, December 2002]

“So I think that we are on to something, but I think in this clinic we just haven’t had the opportunity to examine on a regular basis our experiences of how to make it work. That’s my feeling on the matter. That if we had more time to meet to discuss our experiences we would say, ‘oh, cut out this and just simplify it to this’ you know, and we would come up with a better tool at the end of the day.” [EH in training focus group, December 2002]

#### *4.1.11 Facility A categories that shaped implementation of the next phase*

The pilot provided valuable experiences which were used to improve the training and implementation process for the next phase and develop the project’s research questions based on the preliminary themes and dynamics.

The pilot training experience was supplemented by an experience of conducting a cooperative inquiry group on BMI with PHC doctors from similar settings (Mash & Allen, 2004), and feedback from selected researchers and trainers at a meeting where the Zwide experience was presented. The following practical improvements for the training were recommended [SA report on training redesign meeting, February 2002]:

- Longer training, if possible, with more on-site support and follow-up.
- A more practical, skill-oriented approach, focusing on specific skills and demonstrations of how they address specific problems in a TB setting.

- Structure sessions around skills for a particular stage of readiness, scenario or stage in a patient's journey through care.
- Fewer skills taught, rather focus on a few key skills.
- Less focus on the term 'BMI' and an emphasis on some generic communication skills.

The following preliminary themes and dynamics emerged as factors that may influence the feasibility of implementing such an intervention in this context:

- Pressures on the staff (demands from management for improved performance and the implementation of policy changes; high case loads; demands from patients; dealing with patient poverty).
- Pressures on managers (staff shortages; ongoing restructuring; multiple roles; demands of facilities and staff).
- Staff strategies for managing their work (morning patient rush and afternoon paperwork; passive resistance to demands perceived as unreasonable; competitiveness over resources).
- Complexity of the intervention (difficulty with concepts; difficulty applying skills/tools developed from another context).
- The roles of an improvement leader (champion, energetic innovator, facilitator, gentle authority).
- The roles of researchers ('experts', donors, credible authorities).
- The lack of space for internal quality improvement dialogue and difficulty in creating one.

## 4.2 Expanded BMI training in Cape Town

In Cape Town the implementation of BMI training primarily targeted the TB staff of three health facilities offering PHC services, but also included staff other than those involved in TB and TB staff from other health facilities in the same districts. The sequence of activity and the interactions between members of the research team and the participants related to this BMI training were summarised in Table 3.3.

### 4.2.1 *Health system management*

In Cape Town TB services at a PHC level were largely run by the local health authority under the Cape Town Unicity, while secondary and tertiary level health care was run by the provincial health authority under the Provincial Administration of the Western Cape. Some parallel PHC services and

management structures were being operated by these two authorities, who were engaged in a drawn-out and painful process of reorganising themselves to avoid costly duplication. The provincial PHC facilities offered more curative services and had fewer facilities and these were largely doctor-driven, while the Unicity clinics offered largely preventative services, and were more decentralised and nurse-driven. Different salary scales, organisational structures and policies created additional barriers and tensions. Little of this appeared to change during the study period, but efforts were being made among the managers involved in the project.

Health district boundaries shifted and the districts were reduced from sixteen to eight during 2004. These districts were the basis for collaboration and coordination between these two authorities at a health service delivery level. Quarterly TB Working Group meetings coordinated TB programme activities at a middle and upper management level, as well as collaboration with NGOs. Upper management of both authorities worked closely and met regularly to facilitate unified TB policy-making and programming.

The project engaged with many of these forums and managers. Researchers worked closest with the Unicity's TB/HIV project director, area managers and TB/HIV coordinators, as well as the provincial administration's two middle management positions in the local health authority structure that seemed to be crucial to the selection process – area managers and TB/HIV coordinators. Area managers were responsible for nursing management in a particular health district and TB/HIV coordinators were responsible for managing the TB and HIV services at the PHC facilities.

#### *4.2.2 Access to and selection of facilities and participants*

Selecting which health facilities to work with was not a simple or straightforward process, although the research team was based in the same city. It involved multiple steps, gatekeepers and changes in direction between March 2002 and May 2003, when final project facilities were identified. At the start of the project some preliminary selection criteria were identified and these were adjusted and clarified based on the experience from the previous phase of work [SA field notes, March 2002]. The aim was to work with facilities which had managers and staff who were interested in being involved in the project, whose TB case loads were relatively substantial, and whose TB programmes were functioning and unlikely to deteriorate due to the introduction of new interventions, but whose outcome data had room for improvement. In early 2002 two area managers with a reputation for being open to new projects were approached to explore their interest in the proposed interventions. They were interested in having facilities from their districts involved in the project, and so the local



authority health director was approached for permission to work in these districts. The health director approved the project [SA field notes, April 2002].

By late 2002 the TB outcome data for these districts showed that they were achieving commendably high cure rates and no longer met the project's criteria. As a result, TB/HIV coordinators with a reputation for innovative and enthusiastic management were approached in a similar fashion [SA meeting report, December 2002]. They too expressed an interest in the project for their district. They approached their district manager who then took the project to the local authority health directorate's Integrated Health Management Team. This committee then informed the researchers that there were new procedures in place for approving research projects and identifying research sites within the city [SA email, January 2002]. Part of the reasoning for this new system was that the management felt that there were many research projects being implemented and they tended to be concentrated in certain districts, so more coordination and equity was needed. The researchers then had to submit the revised protocol to the local authority's epidemiologist. The study was reapproved and the researchers were then asked to work with the TB/HIV project management to identify research sites [SA email, April 2002].

The researchers met with the TB/HIV project managers to present the project and selection criteria. These managers showed support for the project, but had some concerns about the details of the project implementation and the potential burden on staff [SA meeting report, February 2003]. On the other hand, the researchers had decided to keep the number of participating facilities to one or two, but increased the number to three on the request of the managers, who said that increasing these numbers was more realistic and cost-effective for the training component. The TB/HIV project management then set up a way of identifying the research sites in a more equitable way. The researchers were given an opportunity to present the study and its criteria for identifying facilities to a meeting of TB/HIV coordinators, area managers and district managers. Hardly any district managers were present at this meeting, but most TB/HIV coordinators and area managers were present and seemed enthusiastic about the study. The TB/HIV project manager then asked this forum to propose one site in each district that met these criteria [SA meeting report, February 2003]. This list of facilities was presented to the Integrated Health Management Team who selected three sites on the recommendation of the TB/HIV manager. The researchers were then given permission to approach the identified facilities with the relevant district TB/HIV coordinators.

Two of the selected facilities were managed by the local authority and one by the provincial authority. The researchers then worked through the TB/HIV coordinators to approach the facility

managers and set up a meeting to present the project to them and their TB staff and gauge their readiness to be involved in the project [SA and LR site visit reports, March 2003]. By this point, two trainer-researchers (NP and LR) had been employed to assist with this process. SA, supported by NP or LR, facilitated such a meeting at each of the facilities. This was a frustrating and uneasy process for researchers. Some of these appointments were difficult to set up and researchers would arrive and find that crucial people weren't able to attend. It was also uneasy because the facilities' involvement was largely imposed by their superiors [SA field notes, March 2003].

Researchers used tools and skills based on BMI to encourage facility managers and TB staff to express their views about the project and the proposed interventions. The researchers offered the staff and management the option of not being involved in the project at all or being more selective about interventions. This was despite the fact that the researchers were concerned about further delays to the project and the fact that certain interventions were more difficult to do in only certain facilities and not others. The interventions were also presented in such a way that emphasised the aspects of each intervention that could be adjusted to suit the conditions of each clinic and certain aspects that needed to be standardised across facilities [SA field notes, March 2003].

Facility and TB managers and some staff expressed interest and concerns about some of the interventions, but verbally agreed to participate in the study [SA and LR site visit reports, March 2003]. Of all the interventions, they expressed the most enthusiasm about the prepacked medication, followed by the booklets and the communication training. Their concerns tended to be about the practical and logistical aspects of the interventions, such as supplies, ordering, what should be written in patient folders, who should be involved, short timeframes, and overburdened meeting and training schedules [SA and LR site visit reports, March 2003]. A project poster was distributed to the TB treatment rooms of each of the participating facilities as a way of reminding the staff about the project and the regular visits of researchers.

#### *4.2.3 Setting up the training process*

Due to the unexpectedly long process of selecting health facilities to participate in the study, the research team had to move rapidly into conducting observations in each facility and setting up the training [SA field notes, June 2003]. The researchers had initially thought that it would be best to begin with the interventions that the health facility staff and management had shown the most interest in. Unfortunately this was not possible because the logistics involved in the prepacked medication and photo-novellas were the most time-consuming, and had to be put on hold until the facilities had decided whether or not to be involved in the project.

Due to the delays in the project implementation, the researchers decided to begin with the communication training intervention first. The logistics of this were complex with several trade-offs, compromises and changes of plans in the negotiations between researchers, TB/HIV project management, TB/HIV coordinators, facility managers and TB staff. The training was extended into 6 weekly 2-hour afternoon sessions based on the experience of the previous phase, but had to remain limited because of the training load [SA field notes, June 2003]. An additional booster session was also planned as a part of the follow-up process.

The decision was made to have two training groups by repeating each week's session so that all the TB staff in a clinic were not removed from their work at the same time and their service could still function. Scheduling was difficult because of the many training events being held during a similar time period. The search for a convenient and comfortable training venue was also challenging [SA field notes, June 2003]. Two of the health facilities were located less than 5 km from each other, while the other was more than 20 km away. After not being able to find a more suitable venue in a more central location, an initial decision was made to hold the training in a venue located close to the two facilities and the researchers' offices. The venue was shifted after the TB/HIV coordinators suggested an alternative venue at some district local authority offices not far from the more remote health facility.

At first the facility TB staff (including various ranks of nursing staff and facility-based lay health workers) and nurses from other sections of the facility were asked to attend and the facility managers and TB/HIV coordinators were also invited. Shortly before the training was scheduled to start, it appeared that the number of likely participants was too low considering the size of group needed for a suitable group dynamic, the fact that they had to be split into two training groups and that attrition was likely. SA discussed this with the research team and the TB/HIV project director and decided to postpone the training by a week and to invite TB nurses from facilities within the project districts [SA field notes, June 2003].

#### *4.2.4 Nature and quality of the training process*

The training sessions took place during July and August 2003, with follow-up sessions in September 2003. The training was facilitated by SA with the support of two co-facilitators – LR, with experience of running communication training for TB nurses, and NP, with experience of facilitating MI training for health workers. Each of the six training sessions were structured to focus on one or two communication skills for a particular stage of a patient's readiness for change or TB scenario:

1. Looking at how we interact with our patients (skill: self-reflection).
2. Exploring our patients' point of view (skills: open-ended questions and active listening).
3. Beginning to talk with our patients about change (skills: assessing readiness to change and negotiating an agenda).
4. Getting the right messages across to our patients (skill: exchanging information carefully).
5. Helping patients to think about changing (skill: exploring mixed feelings about change).
6. Preventing and resolving problems (skills: avoiding blaming and shaming, brainstorming practical solutions and preparing for the future).

These sessions were broadly designed to include some reflection on the usefulness of a skill presented at the previous session, a conceptual element related to a new skill, some practical demonstrations, a prompt or tool for applying the new skill and an opportunity to use the new skill in the training environment. There was also a skill-related task that participants were asked to complete in their work environment between sessions (refer to Addendum D for an example of one of these skill-related tasks). This structure formed the broad framework for each session and the experience of facilitating each session was used to develop the detailed learning activities and materials for the next (see Addendum E for a sample of a training session plan). The facilitators exchanged their views on the training sessions during and after each session and at a weekly review and planning meeting, and adjustments were made to the sessions accordingly.

The facilitators used an activity-based approach to learning which involved group discussion, role-play, showing video clips, brief presentations, skill demonstrations and a variety of small group and individual activities [videos of training sessions, July and August 2003]. Roles of leading activities, observing and commenting were shared among facilitators, although SA tended to take the role of lead facilitator. The sessions were video-recorded and some parts were tape-recorded, except for a couple of occasions when the camera operator was not available and the facilitators weren't able to operate the equipment correctly.

A total of 28 different people participated in the training over the six pairs of sessions [Training attendance record, July and August 2003]. Attendance was troubled by the fact that some of the facilities that received late invitations to the training had misinterpreted the structure of the sessions and criteria for participation and there were occasional clashes with other meetings and training for some participants. Despite this and some absence due to illness, 5 people were able to attend all 6 sessions, 15 others attended 3 to 5 sessions and 8 attended less than half of the sessions. The number of participants in each session varied from 5 to 12. Facility D had the best attendance record,

followed by facility C, but nobody from facility B attended more than 3 sessions. The rest of the participants were made up of TB staff and lay health workers from other facilities and managers and TB/HIV coordinators [training attendance record, July and August 2003].

#### *4.2.5 Interactions between those involved in the training*

The dynamics of the social interaction during the training were complex, since the training involved three researcher-facilitators with different backgrounds and 28 participants with diverse backgrounds, responsibilities and levels of authority, from different facilities or districts, who were or were not part of the larger AFDOT project, split into two training groups and whose activities were observed and recorded by a camera operator.

The researcher-facilitators were SA, NP and LR. SA, an English-speaking white male with social work training, was the lead facilitator. He contributed an understanding of how the training fitted in with the implementation of the larger research project, the overall training design and experience in BMI training. NP, a Xhosa-speaking black African woman, brought experience in social work, addictions and HIV/AIDS counselling, using MI and training health professionals in its use. LR, an English-speaking white woman, had vast experience in TB programmes, nursing, health care management and quality improvement, and training PHC workers on communication, and had been involved in the preceding research projects that led to the development of the present study.

These facilitators had been working together during facility observations and meetings and the planning leading up to the training. SA and NP had facilitated training together in the past in a different setting, but the three facilitators essentially had to develop new working relationships and styles. This was done through meetings and discussions before, during and after each training session and through the experience of working together. These discussions involved reflecting on what worked or did not work in previous or current sessions (including each other's roles) and developing or adjusting plans of what to do next [audio-recordings of trainers' meetings and SA notes on trainers' meetings, July and August 2003]. An overall training plan with outlines of content, activities and alternatives, guides for participants and facilitators and some materials for early sessions was developed ahead of the training. These plans would be adjusted in response to the facilitators' perceptions of the feedback from training groups and participants. Changes would sometimes take place spontaneously during sessions based on facilitators' intuition – testing the trust, flexibility and creativity among the facilitators [SA notes on training meetings, July and August 2003].

More detailed plans, alternative activities and materials were developed as the sessions progressed. SA took responsibility for writing the plans, guides and materials based on discussions and led many activities, but the responsibilities for introducing and leading activities shifted regularly. Some of the other roles and tasks that were shared among facilitators included small group facilitation, carrying and arranging equipment and furniture, serving refreshments, operating recording equipment, writing summaries of group discussions and participating in and observing activities.

The training sessions were an opportunity for the relationships between participants and facilitators to grow. As facilitators were grappling with how to best present the skills and manage the sessions, participants were coming to grips with what they were being asked to do. Initially most stated that they were expecting to be able to improve their cure rates and some wanted to improve their caring and communication skills [video-recordings of session 1, July 2003]:

“[She wants to know] how to improve TB services, how to do quality care and how to improve the cure rate” [CT G1 S1: Manager reporting on TB nurses’ expectations]

“She says you can never have enough ways of learning how to teach our patients and get through to the patients – to really, hopefully, get TB down.” [CT G1 S1: Manager reporting on a lay health worker’s expectations]

“...her expectation is how to get the TB patient to take his tablets, because I also got that problem. You scare them with the police, but they don’t worry.” [CT G2 S1: TB nurse reporting on a colleague’s expectations]

By the end of the training, facilitators felt they were getting relatively honest feedback from participants about the training and the skills presented [SA training notes, August 2003]. These participants were also more welcoming when visited by the facilitators, and seemed to feel comfortable sharing more sensitive information about their work environments.

The relationships between the participants and camera operator also grew during the training. Participants were initially uncomfortable with having their interactions video-recorded, but reluctantly agreed [video-recordings of session 1, July 2003]. A camera light and having certain smaller group activities video-recorded also proved to be distracting for participants at times. Even though the video material was only being viewed by the facilitators and the camera operator, participants asked to be able to see what was recorded, seemingly to ensure that they did not look

foolish. The facilitators and camera operator edited the material into a brief summary video to show the group, which seemed to reassure them [SA training notes, September 2003]. Despite hardly saying a word to the camera operator, some participants seemed to feel a bond with him as he had been part of their training experience [SA training notes, September 2003].

During training sessions the interactions between the participants themselves also showed differences between individuals, groups and sub-groups. Individual participation seemed to be influenced by authority level, personality and language. There was a tendency for managers to speak more during discussions, while people with less authority or lower positions in the health system hierarchy had less to say [SA training notes, August 2003]. The amount that people had to say was also affected by their personalities. Some people seemed to take on the roles of story-tellers, jokers, philosophers, actors, students or educators quite naturally, while others preferred to listen or think about what was being said and had little to say themselves. This also appeared to affect the extent to which participants completed the tasks requested by facilitators during or between sessions [SA training notes, August 2003]. Language may also have played a role, as the sessions were conducted in English and most participants were second-language English-speakers [SA training notes, August 2003]. Some were inhibited by this, although they were encouraged to speak in Afrikaans or isiXhosa if they felt more comfortable, since two of the facilitators could understand Afrikaans and one could understand isiXhosa.

Group and sub-group differences also emerged during sessions [SA training notes, August 2003]. Participants from the same facilities were asked to divide themselves into a Wednesday or a Thursday group and remain in those separate groups for the duration of the training. Although participants from the same facilities tended to stick together initially, they began mixing more during the training and many of the small group activities facilitated this [SA training notes, July 2003]. As they shared work experiences during the training, some of the differences and similarities in the working conditions and climates of the different facilities were highlighted. As described earlier, the staff from some facilities were not involved in the larger AFDOT research project and were recruited late for the training. These participants took longer to get orientated to the training, its purpose and its content because others had been involved in preliminary meetings at their facilities [SA training notes, July 2003]. Facilitators also noticed contrasts between the way that Wednesday and Thursday groups responded to training sessions [SA facilitators' meeting notes].

#### 4.2.6 *Perceptions of BMI skills*

Participants had varied understandings of the concept of patient-centredness, but their descriptions were congruent with the dimensions described in the literature [SA training notes, July 2003]. Their written responses indicated that they primarily thought of the dimension of a therapeutic relationship, built by providers expressing empathy and encouragement towards patients, and patients developing trust and being able to express their concerns [Decision balance sheets, July 2003]. The dimension of collaboration and shared decision-making also appeared in their responses. They added some perspectives on what ‘patient-centredness’ might mean in their context by also emphasising information-giving and treatment adherence in their written feedback [Decision balance sheets, July 2003].

According to the themes of the written responses given, participants perceived this PCA to be beneficial to both patients and providers [Decision balance sheets, July 2003]. They felt it helped to create a friendly relationship of trust and care. This allowed patients to feel more comfortable to express themselves freely and be more active decision-makers and take more control of their treatment. The health providers said this made it easier to educate patients about their treatment and what was expected of them. This was understood to improve cooperation from patients and increase the likelihood of them making healthier choices and adhering to treatment [Decision balance sheets, July 2003]:

- “Build relationship [between] yourself and the patient easily”
- “Voel hul kan personeel vertrou, voel iemand gee om” [They “feel they can trust the staff and that someone cares”]
- “Make the patient feel relaxed”
- “A happy client, because they had a [chance] to express themselves, gain info, understands what is expected from them.”
- “Give the patient a chance to talk by asking questions”
- “Get all necessary history from the patient”
- “He gets encouraged to take the treatment”

The reported disadvantages of this type of approach were generally about the perceived demands it placed on staff [Decision balance sheets, July 2003]. It was viewed as too time-consuming in a context of high case loads and staff shortages. It was not practical in their view as it gave patients too much opportunity to speak, and the limited space and arrangements of their health facilities were not set up to support confidentiality. They also felt it was too psychologically demanding, since it opened them to becoming emotionally over-invested in their patients and their patients becoming more



dependent on them [Decision balance sheets, July 2003]. They felt they needed to address the overwhelming poverty-related needs of their patients, but weren't in a position to do so. The approach demanded patience, but drained their limited reserves, according to some of the participants [Decision balance sheets, July 2003].

- “Using open-ended questions is time-consuming, some [patients] have verbal diarrhoea”
- “The time is too little”
- “[Too little] confidentiality – shared rooms”
- “Needs a patient somebody”
- “When he lost job I cannot help with food support”
- “Become emotionally involved (sometimes)”
- “Iemand kan dalk afhanklik raak van jou” [“Someone can become dependent on you”]

The health providers perceived their current practices as having a number of advantages. They felt they were efficient, helping them to get through a number of patients in a short space of time [Decision balance sheets, July 2003]. They felt they had more control over their time with patients and their workload. This allowed them to provide more information, which they felt led to increased cooperation from patients. Many indicated that their approaches had similar characteristics and benefits to the PCA that had been presented to them, and that their patients felt at ease with this [Decision balance sheets, July 2003]:

- “Closed-ended questions due to the [shortage of] time and queue waiting”
- “Telling the [patient] about his sickness and [treatment]”
- “The work (amount) gets done”
- “Nurse in control of winning the [patient]”
- “[Patient] will comply [because] of information [given]”
- “To win, so that the [patient] can finish his [treatment]”
- “The patient will feel comfortable”.

Reported disadvantages of their existing approaches to their patients varied. Examples of poor quality of care, such as too little or too much information, limited opportunities for patients to express themselves and time shortages were cited [Decision balance sheets, July 2003]. This made their patients feel uncared for. Staff felt their systems were poor with drug stock-outs, regular interruptions of care (e.g. telephone calls), limited space and poor confidentiality [Decision balance sheets, July 2003]. They suggested that this resulted in patients feeling dissatisfied, discouraged, afraid

and threatened. These patients tended to become aggressive or were perceived as more likely to interrupt and default on their treatment as a result [Decision balance sheets, July 2003]:

- “Too much interruption”
- “Not totally confidential”
- “[A shortage of] space in the clinic”
- “[The patient] won’t know anything [because] of too much unnecessary information”
- “To get through a [high] amount of [patients] you tend not to listen”
- “[Die pasient] voel hy word nie ’n kans gegun om homself uit te druk in woorde nie”  
[“Patients feel they are not given a chance to express themselves in words”]
- “[Die pasient] voel net soos ’n nommer” [“The patient feels like just a number”]
- “[The patient] won’t comply or will because he is threatened/scared”
- “[Patients] become aggressive.”
- “[Patient] tends to default along the way”
- “Defaulters. They have no food nor money. What must they eat to drink tablets? They want a [disability] grant. When they don’t qualify they default.”

#### 4.2.7 *BMI training categories*

Overall, the training seemed to be a vast improvement on the pilot training and was implemented successfully based on what was learned from the pilot training [SA training notes, August 2003]. In comparison, this ‘roll out’ training was understandably more complex to implement in terms of logistics. It would not have taken place at all had it not been strongly supported by the TB/HIV coordinators and local authority health managers who ensured the best possible dates, venue and attendance under the circumstances [SA training notes, August 2003]. While these managers proved crucial to the running of the training, the facility-based managers and TB staff were crucial for the intended implementation of the BMI skills and approach. From the researcher-facilitators’ perspectives, the training provided them with chances to think about and/or experiment with the new skills [SA training notes, August 2003]. It also provided the researcher-facilitators with opportunities to better understand participants’ work context and consider how the proposed skills and training may or may not fit and may be adjusted [SA training notes, August 2003]. These opportunities for reflection, discussion and experimentation were perhaps the success of the training.

Participants used each discussion opportunity to share experiences about the challenges of their work with researcher-facilitators and colleagues. Their behaviour created the impression of neediness at times, as they enthusiastically consumed each debriefing opportunity and the refreshments provided

[SA training notes, July 2003]. This tendency to focus on needs and problems was overwhelming at times, but didn't seem to derail the training. The structure of the training and its skill-based approach seemed to help participants and researcher-facilitators to keep focused on its purpose – experimenting with new skills as potential ways of improving communication in this challenging context [SA training notes, August 2003].

The training also raised researchers' awareness of tensions between the BMI skills or approach presented, the participants' personal qualities, communication styles and readiness for change, and their challenging, pressurised work contexts [SA training notes, August 2003]. The skills and approach had not been applied in a TB context but were being promoted by the researcher-facilitators without any guarantees that it would be superior to current practices. The participants had diverse personalities, backgrounds, levels of education and authority and a variety of consultation styles [SA training notes, July 2003]. Some naturally demonstrated communication styles that were similar to the approach presented, while others had showed styles that were incongruent [SA training notes, July 2003]. There were also individual differences in their readiness to change their communication styles. Many of the explanations given for why applying this type of approach was difficult or not possible had to do with the context. They felt they were or would be trying to implement something in an environment where there was little or no opportunity to try potential improvements and that their work environments were in fact set up against such an approach [SA training notes, August 2003].

The TB staff felt they didn't have the time to provide good-quality care because of staff shortages and high patient loads:

“all clinics have such big numbers ... big workloads, so you tend to just call 'next', 'next', 'next' and that can be a problem for some people ... so the best is to just to assess each one individually, but it's not easy in the clinic situation.” [CT G1 S2: TB nurse/manager]

The challenge of dealing with patients' poverty and complex social problems was also a common topic of discussion:

“We've got nothing [to give hungry patients]. ...and you have to take your child's porridge because you are concerned about this. But now it is every day [that he asks for something to eat], every day. You've got nothing ... sometimes you have to say

‘Drink the tablets – I’ve got nothing’. And you have to tell your children, ‘No laughing because when you laugh he will ask for your bread,’... so like just [cut the conversation] off, ‘bye bye’... because as soon as you leave a gap he will ask, ‘Don’t you have another...?’ or maybe tomorrow, you know. ... You do want to talk, but now you know that also he will leave you emotional... it really affects you emotionally, especially as a volunteer and you getting nothing and all that. And all these problems, you’ve got nothing.’ [CT G2 S1: Lay health worker describing supervising her poorest patients]

“What I asked him was what was important for him at that moment – his health or his problems. So he said both are important. But it was such a lot of problems that I didn’t feel like talking – I was just listening ... I referred him to the social worker ... I didn’t see him again.” [CT G1 S2: nurse/manager]

It is difficult to focus on achieving TB programme targets and implementing its policies and protocols. These sometimes compete with the individual needs, demands and circumstances of patients:

“We don’t always take the circumstances of the patient into consideration. The other day we had an MDR patient who didn’t come the whole week for his injections... so I asked him, ‘Why did you do this? You know how important this is. It’s not the first time you got TB.’ He said, ‘Sister, you don’t understand my circumstances. You don’t know why I didn’t come. My child was sick and he was sick and he couldn’t walk to the clinic.’ So sometimes you don’t think of the circumstances of the client. You just want them to come drink their tablets so that you can have a good compliance and cure rate.” [CT G1 S1: TB nurse]

“He wants [to take all of] his tablets [with him] now – he’s going [away while] on treatment. Because the other time [the patient] had TB, [a clinic] gave his tablets to him. And now [the patient says], ‘I’m a reliable person. Do you think I’m not going to drink them?’ I said, ‘Sir, I can see you look reliable but I’m going to talk about you now. The government says you must drink your tablets *under supervision*, Sir!’ He says, ‘Oh Sister, is that so... ok, I’m going to take it.’” [CT G1 S2: nurse/manager]

“What the next person tells you is not always what you want to hear, so you need to ... ask [about] the specifics, otherwise you will not be able to record the necessary things. That person might not give you the information in the order that you wanted ... and TB has a whole lot of forms.” [CT G1 S2: nurse]

For many participants, the training made them more aware of their current communication practices since it created opportunities for them to think about and discuss what they were doing:

“Having to fill in this [training task sheet] makes you think a bit about what you are doing ... You don't [normally] ask in our head about how is this [consultation goes] going – it just comes... [this exercise] makes you think a bit deeper.” [CT G2 S2: TB nurse/manager]

“I think this exercise made us think about what we are doing.” [CT G2 S2: TB nurse]

“We as nurses are, we've been like this all this years – we've been telling people. So I think it's just something we've got to learn. We've been telling people, 'Look, you've got TB, you've got to take your tablets' and this, that and the other. We've never really listened to the patients.” [CT G2 S4: TB nurse]

“We were brought up to tell the patient what to do. I mean, there's a lot of changes that's happened now for the past years – how many years now. That we must now change our mindset. Not just telling the patient what to do.” [CT G2 S4: TB manager]

“We never actually gauge [TB patients'] readiness [to take their treatment]. We read that you got TB so you have to go on treatment. Whether they are now ready or not. There is no choice.” [CT S3 G1: TB manager]

In written and verbal feedback on their perceptions of the training, participants indicated that they were largely satisfied with the training. Many pointed out that they enjoyed sharing their work experiences with people from other facilities and the smaller group activities involved. They felt that a weakness of the training was that it needed better demonstrations of how the skills could be used in their context. Extending the training period was a common suggestion at the end of the training. Those participating in the final evaluation session in September 2003 seemed to value the skills and

felt largely confident in their own ability to use them. When asked to rate each of the skills presented between 1 (not useful at all) and 10 (extremely useful), participants responded as follows in Table 4.1.

**Table 4.1** Respondents' ratings of the importance of the skills presented in the training.

Skill	No. of respondents	Lowest score	Highest score	Average score
Reflecting on how you interact with your patients	12	7	10	9.17
Open-ended questions and active listening	12	5	10	9.17
Assessing readiness for change	12	5	10	8.08
Negotiating an agenda	12	5	10	7.92
Exchanging information carefully	12	8	10	9.08
Exploring pros and cons	12	6	10	9.08
Avoiding blaming and shaming	12	3	10	8.42

This table suggests that the respondents valued the basic communication skills most, while the BMI skill of negotiating an agenda was the least popular. Overall though, their scores were higher than the facilitators expected.

Their ratings of their confidence in using these skills in their context are presented in Table 4.2.

**Table 4.2** Respondents' ratings of their confidence in applying the skills presented in the training.

Skill	No. of respondents	Lowest score	Highest score	Average score
Reflecting on how you interact with your patients	10	7	9	8.87
Open-ended questions and active listening	10	7	9	9.1
Assessing readiness for change	10	6	10	8.4
Negotiating an agenda	10	7	10	9
Exchanging information carefully	10	7	10	8.9
Exploring pros and cons	10	7	10	9.1
Avoiding blaming and shaming	10	7	10	8.7

According to this table, most respondents felt confident that they could master these skills in their context. Exploring pros and cons and open-ended questions and active listening received the highest confidence ratings, while the skill of assessing readiness was rated lowest. Again, these ratings were much higher than trainers expected, since the barriers to implementing these skills were often discussed by participants during the training. These responses do not represent the way all participants valued the skills and their ability to implement them. The dynamics of implementing these skills in the busy PHC facility contexts are described in the sections that follow.

### 4.3 Dynamics of BMI implementation in facility B

#### 4.3.1 *TB treatment setting*

This Cape Town facility was in an urban township where the majority of residents were from the Xhosa ethnic and language group, as were most of the staff. Child health, family planning, TB, HIV testing, pap smears and general adult care were the main services offered at the time. The building had a U-shape with the main entrance at the inside base of the 'U' [SA observation notes, May 2003]. When researchers first visited the facility, a new wing had just been completed and the facility was in the process of rearranging itself and shifting into the new area. Although researchers were unable to spend extended periods of more than 3 hours continuously at the facility, it seemed the busiest during the earlier parts of the mornings, and benches were full of waiting patients [SA, LR and LW observation notes, May, September and October 2003]. From mid-morning patient numbers began to dwindle and looked to be fairly quiet by lunchtime. The flow of patients also varied according to the day, as certain services and referrals were only available on certain days [SA, LR and LW observation notes, May, September and October 2003].

The facility offered clinic-based TB treatment, delivered by one to three nurses with the support of selected lay health workers, and community-based treatment was also offered through lay health workers under the supervision of the TB nurses. The TB service was affected by staff turnover and rotation during the project implementation period [SA observation notes, October 2003]. One new staff member was transferred into the service and another left to work in the private sector. The TB service was delivered from a fairly spacious room in the wing of the building that was not affected by the renovations. A neighbouring 'diabetics club' room was occasionally used for staff meetings and meetings with staff and groups of patients [LR observation notes, May 2003].

The flow of TB patients appeared steadier and less hurried than other parts of the clinic. The treatment room contained some cabinets and tables along two of its walls with files, folders and drugs, an area with a curtain for injections, a wash basin, a row of chairs along the shortest wall closest to the door and some desks towards the centre of the room. It seemed clean and well-equipped [LR observation notes, May 2003].

Standard patient-held 'green cards' were used to monitor each patient's treatment adherence, manage regimen changes and remind patients to give sputum samples on designated days [LR observation notes, May 2003]. In addition to this record-keeping system, staff used trays of individually labelled pill containers to manage and monitor their patients' treatment adherence for a particular day. Each of these small containers would be filled with an individual patient's treatment for that day and closed with a lid. As patients took their treatment, their empty containers would be tipped upside down so that the staff could tell which patients had not yet come to take their treatment at a glance during the day [LR observation notes, May 2003].

#### *4.3.2 Facility leadership*

The researchers initially experienced the facility management as lukewarm towards the project, but felt that the management became increasingly obstructive [SA field notes, October 2003]. Although the facility manager had verbally agreed to have her facility participate, over time her actions suggested that she actually did not want to have her facility involved. There were a number of occasions when researchers came to conduct observations or meetings in the facility when she did not appear to recall previous agreements and repeatedly sent researchers back to her TB/HIV coordinator or area manager to request permission to be there, although permission had already been granted. While seldom openly aggressive towards researchers, she seemed to use her authority and the health system hierarchy to obstruct research activities [LW observation notes, October 2003]:

“Nevertheless, when we arrived at the clinic and presented ourselves to [the clinic manager], she appeared (or pretended) to not know anything about our visit and was 'offended' by this. She was not overtly hostile, but was clearly passive-aggressive, disapproving and suspicious of us, particularly of [my colleague]. They spoke in Xhosa for a while, a fairly tense exchange (unsmiling), while I smiled and smiled like a lunatic.” [LW observation notes, October 2003]

On several occasions management was also absent from the facility. The deputy managers were friendly towards the researchers, but deferred decisions to their superior. This atmosphere of



suspicion and distrust not only made it difficult to implement the project, but also difficult to delve deeper into management's concerns about the project [LW observation notes, October 2003]. Researchers struggled to establish a constructive working relationship with the facility management:

“This feels like a clinic ‘in crisis’, with the obstructive and authoritarian attitude of [the clinic manager] permeating all relationships, including those of nurses towards management ... and also relationships with patients.” [LW observation 30 Oct 2003]

Over time it emerged that there was only management support for the project while the TB/HIV coordinators or area managers were present [SA field notes, October 2003]. It therefore appeared that the management support for the project actually came from outside of the facility management. The TB/HIV coordinator was particularly supportive of the project, although she had many other facilities to attend to. She was the only manager who represented this facility at some of the training sessions and researchers were able to establish a good working relationship with her [SA training notes, August 2003]. Eventually, after some discussion with the TB/HIV coordinator and the TB/HIV project director, the decision was made to withdraw the remainder of the study activities from this facility due to the lack of support for the project from facility management [AM meeting report, March 2004].

#### 4.3.3 *Staff interaction*

Opportunities for researchers to observe the relationships between staff were more limited in this facility than in others. The atmosphere of tension and distrust seemed to filter down through the hierarchy, but staff appeared to get along [LW observation notes, October 2003]. The ritual of morning tea was the most significant space for staff interaction that was observed. Unlike what was seen in the other facilities, virtually the whole facility came to a standstill for approximately an hour from about 10:30 to 11:30 [LW observation notes, October 2003]. Staff were seen preparing and consuming copious amounts of food and having animated conversations during this time. The tea break seemed to be an opportunity to relieve work-related stresses [LW observation notes, October 2003]. The staff interaction was less guarded during this time, provided the facility manager was not present. The staff seemed to directly behave in a passive-aggressive way towards their superiors, as demonstrated through their ‘go slow’ tea breaks [LW observation notes, October 2003].

#### 4.3.4 *Staff-client interaction*

Staff-client interaction took place in the TB treatment room, which staff used to perform multiple simultaneous functions and tasks. The arrangement of the room and the use of space created no

room for private or confidential conversations [SA observation notes, May 2003]. During early observations up to 5 patients would be waiting passively on a bench in the room while being dealt with by staff who were completing a variety of other administrative tasks [LW observation notes, May 2003]. Staff and daily treatment patients would walk in and out of the room, while other telephone calls and conversations were taking place in this busy ‘marketplace’ atmosphere, reminiscent of the pilot site. Researchers struggled to observe and follow the communication between one health provider and one patient, because interactions were typically fragmented and frequently interrupted [LW observation notes, October 2003]. An early effort to apply a measure of ‘patient-centredness’ proved impossible because the measure was designed for one-on-one communication [NP field notes, May 2003]. In addition, 3 of the 4 researchers were not able to speak or understand isiXhosa (the language most commonly used by staff and patients at this facility), which meant that their observations were limited to style rather than content.

Contrasting communication styles were used by staff in this context. Observations included examples of: (1) no direct communication or eye contact with patients, where patients were ignored and left waiting or their cases were discussed openly among staff in the room, (2) a directive style, where patients were told what to do and asked some closed-ended questions, and (3) an eliciting style, with open-ended questions and verbal and non-verbal prompts to encourage patients to share their perspectives [LR observation notes, May 2003; LW observation notes, October 2003]. Although most interactions were a combination of these styles, the two nurses observed most in the TB treatment room were almost polar opposites in their approach – one tended to behave in a more open, caring and consultative way towards patients, while the other had an abrupt, authoritarian and directive approach:

“I certainly don’t want to demonise individual nurses as ‘bad apples’ when clearly they are products of a wonky and/or troubled system, but the differences between [the two TB nurses’] styles of interaction with patients – ostensibly patient-centred and definitely not, respectively – was striking.... [The one nurse] has a naturally, essentially more open and consultative, caring, style of engagement.” [LW observation notes, October 2003]

#### *4.3.5 Researcher-participant interaction*

Interactions between the staff and the research team were friendly. Staff were willing to be observed while working or participating in meetings and training sessions. Four different researchers were involved in observations at one time or another. Researchers primarily observed and interacted with

the staff in the TB room and during training sessions. During the intervention period some staff were shifted in and out of the TB room due to staff rotation within the facility, and one nurse left the facility to work in the private sector [SA field notes, October 2003]. The shifting of researchers and staff and poor attendance at training sessions meant that there was poor continuity of the relationship between researchers and staff [SA field notes, October 2003].

#### *4.3.6 Extent and quality of BMI implementation and adaptation*

TB room activities were observed during October 2003, after the training was completed, in order to assess what elements of the training had been implemented and how. Observations revealed that the nurses' consultation styles were similar to their styles prior to the training [LW observation notes, October 2003]. There was evidence that one nurse in particular was applying skills such as open-ended questions. The TB room had been rearranged in a way that seemed to streamline the movement of staff and patients, and the waiting area had been shifted outside of the room, which somewhat increased the privacy of consultations [LW observation notes, October 2003]. There was essentially almost no change in the observed TB consultation activities, and the changes that were observed would be difficult to attribute directly to the training on BMI [SA field notes, October 2003]. The nurse who provided the best examples of a more patient-centred approach to consultations left the facility to work in the private sector.

#### *4.3.7 Extent and quality of training support and follow-up*

Training support and follow-up were hampered by the difficult relationship with the facility manager and the discontinuity among the TB staff and research staff at the time. As a result, there was only one follow-up support visit after the training. Subsequent visits were related to the introduction of other AFDOT interventions in the facility.

## **4.4 Dynamics of BMI implementation in facility C**

### *4.4.1 TB treatment setting*

The health facility was based in a young urban township, sandwiched in a half-kilometre strip between a 3 km stretch of highway and a marsh. It offered PHC services for child health, family planning, TB, HIV testing, pap smears and STIs in a community where Afrikaans and isiXhosa were the dominant languages spoken; there were also some refugees who could speak French, Portuguese or other indigenous African languages other than those spoken in South Africa.

Other than the HIV counsellor, the staff were from the so-called 'coloured' population group and were able to speak and understand Afrikaans and English [SA observation notes, May 2003]. Located next to sports grounds, the health facility had been converted from a sports changing room that appeared to have been built recently. The rectangular-shaped building was essentially a narrow passage lined by a few rooms, many divided by dry walls and with small waiting areas at either end of the building [SA observation notes, May 2003]. It had too few consulting rooms, evidenced by the fact that the HIV counsellor worked from a converted toilet. Other than the 4 or 5 consulting rooms, there was a kitchen or tea room, a storeroom, a toilet and a reception area with patients' folders. Even with only a few dozen patients in the building the space felt claustrophobic, and would soon overflow into the outside space [LW observation notes, May 2003]. The arrangement of rooms was also awkward; new patients had to enter the building at the one end and walk through the first waiting area and then move down the passage, past other waiting patients and consulting rooms to the main waiting area where the reception desk and clerk were situated [SA observation notes, May 2003]. Much like what was observed at other facilities, the flow of patients was varied, with early mornings and certain days (e.g. 'doctor's days' on Tuesdays) being the busiest and afternoons tending to be quieter. However, this facility had the smallest amount of space and the smallest number of staff [SA field notes, May 2003].

The TB service had a clinic-based service and a community-based service delivered by lay health workers. During the project intervention period one nurse was dedicated to delivering the clinic-based TB service with periodic support from a colleague, a lay health worker and a weekly doctor's session [SA field notes, October 2003]. She worked from one of the consulting rooms close to the main entrance to the building and vacated this space for the weekly doctor's session. The room had a chair and a desk, a bookshelf, a cupboard, a basin and two chairs for patients. It was a pokey and stuffy space with a small window on one wall and an extractor fan which reportedly did not work well [SA observation notes, May 2003]. This room was used for diagnosis, new admissions, educating patients, and dealing with complicated cases (e.g. children, MDR-TB and HIV-coinfection) and side-effects of medication.

A lay health worker seemed to largely assist with treatment, which took place in the small waiting area at the entrance to the building [LW observation notes, May 2003]. Drugs would be dished out to patients out of large pill containers as each patient came for treatment. She was also observed triaging patients. The waiting room was not well-equipped for delivering treatment since it was a public space (sometimes divided by a movable screen) and had no basin. At one point patients were

seen taking their treatment by drinking water from a bucket using a communal cup [LW observation notes, May 2003]. Although cramped and poorly equipped, the facility was clean and tidy.

#### *4.4.2 Facility leadership*

The TB/HIV coordinator responsible for the clinic was enthusiastic both about the project and the facility manager and staff [LR meeting notes, May 2003]. She participated in the initial meetings between staff and the researchers, where the initial response from the facility manager towards the project was warm. She welcomed the project as something with the potential to improve conditions in the facility. Her initial approach to researchers was respectful and she appeared to trust their opinion and was cautious to raise concerns about the proposed interventions [SA observation notes, May 2003]. As the project progressed she began to engage closely with the content of the interventions and question their practical application [SA training notes, August 2003].

The facility manager's relationship with her staff also seemed friendly. During some tea breaks she would spend time in the tea room exchanging personal stories and experiences [SA observation notes, May 2003]. It was unclear whether she held this type of relationship with all the staff, but she was observed treating her staff as colleagues and friends rather than having an authoritarian style. Her manager had informed the researchers that she had a reputation in her previous position for being abrupt and troublesome, but the researchers observed her to be a popular and respected leader [SA field notes, May 2003]. The responsibility for managing this health facility, however, shifted when she resigned to take a well-paid job in the Middle East. This took place shortly after the BMI training was completed. This sudden change was followed by a long period of uncertainty for the staff, and another staff member was given responsibility to act as facility manager [SA field notes, February 2004]. This acting facility manager's working style seemed structured, orderly and business-like [AM observation notes, February 2004]. She seemed to have a strong work ethic which she tried to enforce among the staff, but some of the staff seemed to resent her approach [AM observation notes, February 2004].

#### *4.4.3 Staff interaction*

The relationships between staff seemed to deteriorate drastically during the project period. Initially researchers were unaware of the tensions that may have been bubbling under the surface. Staff seemed to have a collaborative approach to their work despite less than ideal working conditions [SA observation notes, May 2003]. Interactions between staff from different sections of the service were friendly and chatty:

“We’ve got a very good relationship in the workplace. Like, say, if you had a difficult client and it was not your day today – you need to talk about it ... We do talk about it and the other one can really say that, ‘Listen, it’s not too serious – that person is now like that’. It helps a lot – otherwise you go home with that patient.” [CT G1 S2: Staff member from Clinic C]

Some staff would be seen sharing their food and stories about their work and home life during tea and lunch breaks [SA observation notes, May 2003]. As the project progressed and researchers got to know the staff better, it emerged that there were some cliques and tensions among this small team [SA training notes, August 2003]. The resignation of the facility manager seemed to be the last straw that broke fragile staff morale and relationships. A dark cloud of depression and resentment seemed to descend on the clinic, and one got the impression that each staff member shifted into self-preservation mode [AM observation notes, March 2004]. Staff seemed less supportive towards each other and some expressed an unwillingness to work outside of their job descriptions. Personality differences eroded into bitter feuds between some staff and the acting manager [SA observation notes, March 2004]. There appeared to be an increase in the number of people taking sick leave. New temporary and contracted staff were hired to try to reduce the workload and seemed to inject new energy into this cauldron, but soon got sucked into the feelings of hopelessness [AM field notes, March 2004]. Many of the original staff were talking about leaving. The new staff members, however, were not involved in the TB service at that time.

#### 4.4.4 *Staff-client interaction*

The quality of interactions between patients and staff was restricted by a shortage of space and human resources. The communication style typically employed was firm, serious and efficient, with occasional joking and banter [SA observation notes, May 2003]. Staff reported using jokes to cope with patients who were potentially dangerous to them:

“...these three guys, I think they were 28’s [gang members] ... they didn’t want to come one by one ... they were armed and they had guns and knives ... so I was making jokes with them. I was so scared.” [CT G1 S2: clerk]

The majority of interactions observed between nurses and patients were rushed and task-oriented, with limited attention to the caring aspects of treatment [SA observation notes, May 2003; LR observation notes, May 2003; LW observation notes, October 2003]. The diagnosis and admission process, where nurses are expected to take a history and educate patients, tended to be a closed-

ended question-answer sequence, guided by a form with checklists [SA observation notes, October 2003]. The patients' understanding and crucial information they may have needed seemed to be brushed over, particularly in the case of HIV counselling and testing. This topic was raised almost out of the blue, without any sense of how the patient understood it and without providing information on the relationship between TB and HIV [LW observation notes, October 2003]:

“You know, it was a shock [for the patient]. He was just diagnosed with AIDS [after being diagnosed with TB] because of the sputum. Still this [TB] is a shock to him, he was just diagnosed with HIV. He is not ready. He must go for counselling – come back. He has signed that consent form because he was told to.” [CT G2 S3: TB nurse]

Language differences were also a common barrier which staff and patients had to deal with, and made collaborative communication difficult [LW observation notes, October 2003]. In such cases, the nurses' communication style tended to be simpler, slower and more deliberate in their sessions. Despite these conditions, the two nurses most observed demonstrated a range of different communication styles and skills, with differences in how they dealt with different patients and stages of treatment and how they worked during a particular consultation. While both nurses tended to be abrupt (as described earlier), at times one appeared emotionally distant with less eye contact and the other more respectful towards patients and conscious of her communication style when observed [SA observation notes, May and October 2003]. Although the lay health worker worked efficiently to triage patients during busy times, her communication was only observed on one occasion [LW observation notes, May 2003].

#### *4.4.5 Researcher-participant interaction*

Several researchers and field workers interacted with the staff at this facility during the project period. SA, AM, NP and LR had the most contact with the staff during facility visits and/or training sessions over the implementation period. These researchers' backgrounds were different from those of the staff in terms of language, racial grouping and profession. SA and AM were also different in terms of gender and age. The preliminary response of the staff to the proposed project and the researchers proposing it was to keep quiet [SA observation notes, May 2003]. Their managers tended to do the talking on their behalf and were welcoming, but the TB staff seemed more suspicious. When prompted for their point of view they cautiously said, 'Let's try it first.' [LR meeting notes, May 2003] Although they agreed to being observed by researchers, the staff seemed to feel awkward and self-conscious about being under surveillance [LW observation notes, May 2003]. With more

regular facility visits from researchers and staff attendance of the training sessions, the relationship was able to develop. They began to trust the researchers more as the project interventions, expectations and requirements of them became clearer [SA field notes, October 2003]. The researchers and staff were soon more comfortable with each other and felt some mutual affection for each other by the end of the project.

Not long into the project, the staff were using their time with researchers to talk about the nature of their daily work and share their discontent about their working conditions [SA observation notes, May 2003]. Although the researchers' official role was as listening observers and trainers, the complaints gradually escalated, and one got the impression that the staff may have been asking the project to intervene in some way [AM observation notes, March 2004]. As these conditions and their relationships with each other deteriorated, this neediness became increasingly taxing for researchers to deal with. Staff members would suggest, request or even demand that the researchers or the project should provide anything from refreshments, office supplies and psychosocial support to the staff. The boundary between what was a justifiable part of the research process and what wasn't became increasingly difficult to negotiate and clarify [SA field notes, February 2004]. The researchers' strategies for dealing with this were to listen and repeatedly explain their role and limitations of the project or to deflect or defer these requests as being a responsibility of the health system management. Towards the end of the project talk of unsatisfactory working conditions had degenerated into complaints about colleagues and managers. Researchers tried to avoid feeding into the conflict by limiting those types of conversations from taking place. This overwhelming sense of neediness, frustration and anger made the facility an unpleasant place to work or visit by this point [AM field notes, March 2004].

#### *4.4.6 Extent and quality of BMI implementation and adaptation*

On the whole, staff from this facility gave a good account of themselves in the training and their participation and attendance was good [SA training notes, August 2003]. Each of these participants seemed to engage with BMI in varying ways or to a different extent – one seemed to identify with the theoretical concepts and philosophy, another with the skills and practical ideas for improving care, while others didn't appear to relate at all. Post-training observations revealed dramatic differences in the extent and way that the two TB nurses may or may not have been applying the skills [LW observation notes, October 2003; SA observation notes, October 2003]. One appeared to have grappled with the skills to figure out ways of incorporating them into her consultations. When being observed, she showed that she was willing and able to apply and adapt many of the skills in complex consultation scenarios and to blend them with her existing approach. She had a polite,



caring way about her and had decided to see one patient at a time and close the door of the room for improved privacy, although rushed. She appropriately demonstrated skills such as using open-ended questions and exchanging information carefully (Elicit-Provide-Elicit) [LW observation notes, October 2003], this while working from a checklist format form. The other TB nurse appeared to have experimented with the skills in a limited way. Seemingly overwhelmed by her work frustrations, she worked rigidly from her task orientation without incorporating new skills when observed. When she did seem to apply the skills, it seemed incongruent with the spirit of MI and was rather incorporated into a nurse-centred approach [SA observation notes, October 2003]. Managers reported that this staff member left the facility shortly after the project was completed. Neither nurse, however, addressed HIV testing and counselling in a skilful way, despite the training [LW and SA observation notes, October 2003].

#### *4.4.7 Extent and quality of training support and follow-up*

The observations above were not necessarily a reflection of the daily consultations conducted by these nurses, since post-training observations of communication were limited to two occasions. Although a number of post-training facility visits took place, finding an appropriate time to observe consultations was difficult due to staff shortages and absenteeism. Staff seemed reluctant to be observed after the training because they had a clearer idea of what researchers were observing and appeared to feel that they were under surveillance [LW observation notes, October 2003]. They also seemed unhappy due to their working conditions and conflict with the acting manager, and they did not seem to feel confident about being able to show that they could use the skills [SA observation notes, October 2003].

## **4.5 Dynamics of BMI implementation in facility D**

### *4.5.1 TB treatment setting*

This health facility's services, some of which were available on a 24-hour basis, included child health, family planning, TB, HIV testing, pap smears, STIs, chronic diseases, general adult care and emergency care. The health facility offered the widest range of services from the largest building of all the project facilities. Navigating the building could be a little confusing for first-timers as it seemed to be a series of interleading passages and waiting areas [SA observation notes, May 2003]. The township where it was located, traditionally a so-called 'coloured' community, had rapidly become more diverse as Xhosa-speaking people and various refugee groups moved into the area. The services seemed to be well-used and there were times when lines of people snaked through the

main waiting area and out of the front entrance of the building, making it difficult to get in. Although also busiest in the mornings, the patient flow patterns were harder to identify as there were more services and fluctuations than at smaller facilities [SA observation notes, May 2003]. Despite the larger size, the building could be just as overcrowded or empty as any of the others.

The TB service at this health facility was also the largest of the three other facilities involved in the project. They had a large team of lay health workers for community-based treatment and the facility-based service was run by 3 full-time nurses, 2 part-time lay health workers and weekly doctors' sessions [LR observation notes, May 2003]. During the project implementation period 2 staff members were rotated out and 2 new members were moved into the TB service [SA observation notes, October 2003].

They worked from three consulting rooms in one corner of the building. These rooms had inter-leading doors and doors opening onto the passage/waiting area [LW observation notes, May 2003]. The corner room was used as the main entrance for patients and staff, while the passage doors of the other two rooms remained shut. The interleading doors were used to create increasing levels of privacy for patients and staff [LW observation notes, May 2003]. The first room was generally used for daily pill-taking and injections, the second for test results, admissions and paperwork, and the third for doctors' sessions and closed-door consultations. The first room had a busy 'marketplace' feel to it, particularly in the mornings, and the other two rooms were less bustling, except for Tuesdays when the doctor came [SA observation notes, October 2003].

The staff used the standardised 'green card' patient treatment record to monitor the progress of individual patients, but held them in the treatment room for clinic-based patients (rather than having patients keep them themselves which is the policy norm) [LR observation notes, May 2003]. To monitor and manage the treatment of all their clinic-based patients on a particular day, two trays were used with an alphabetical system of individually marked pill containers [SA observation notes, May 2003]. Containers would be individually marked and filled with that particular patient's pills for the day. The patient would enter the treatment room, find their pill container (with a special mark on it if they were illiterate), take their treatment, place their empty pill container on the 'empty' tray, locate their green card and give it to the lay health worker or nurse to complete [LW observation notes, October 2003]. This would involve careful packing of each patient's regimen ahead of each treatment day.

#### 4.5.2 *Facility leadership*

The facility was run by the provincial authority, while certain services (including the TB service) were operated or supported by the local authority. As a result, the researchers worked primarily with the TB service manager, after a courtesy call to the facility manager. The TB/HIV coordinator was supportive of the project and encouraged the TB manager and staff to become involved. She also attended some of the training sessions. The TB service manager that was approached to be involved in the project was in the process of shifting to work in the child health service of the clinic after managing the TB service for some time [LR meeting report, May 2003]. She was interested in being involved in the project and gave preliminary permission for the project to be discussed with her staff, but also deferred some of the major decisions to her replacement. Passionate about working in TB, she seemed to have a structured approach and was proud of the systems that she had been involved in setting up [SA observation notes, May 2003]. Her approach appeared to be direct and she was not shy about expressing her point of view, and wanted to be involved in the training despite the fact that she had been shifted out of TB [SA training notes, July 2003].

The new TB service manager had been working at another facility previously and managed this facility during the remainder of the project period. Her approach with her staff and patients seemed soft-spoken, gentle and consultative with virtually no emphasis on hierarchy and rank (e.g. lay health workers did not seem to be treated with any less respect than any other staff member) [AM observation notes, March 2004]. There was some awkwardness between the new and the old service manager, but they seemed to respect each other, although their approaches and personalities were different. The first manager reported some difficulties between the TB service, which was run by the local authority, and the rest of the facility, which was operated by the provincial authority [LR meeting report, May 2003].

#### 4.5.3 *Staff interaction*

There were some strong and potentially abrasive personalities among the TB staff, which may have caused tensions at times. However, interactions between staff were observed to be friendly and collaborative with plenty of joking and banter [LW observation notes, May 2003]. The staff were of various nursing ranks, including students and lay health workers, and some had several years of experience in TB control. The group appeared to value each other's opinions despite differences in TB experience, qualifications and personality, and there appeared to be little emphasis on the hierarchy and rank [AM observation notes, March 2004]. There was a period of uncertainty when the change of TB managers took place, but there seemed to be strong sense of camaraderie among staff, who worked efficiently together. As a group they seemed ready to take on new interventions and

ideas for their work [AM observation notes, March 2004]. This seemed to become stronger during the project period, and by the end they seemed to have the ability to make almost any intervention work, irrespective of its quality [AM observation notes, June 2004].

Almost all the TB staff were female, Afrikaans-speaking, and from the so-called 'coloured' population group. The new service manager would have been classified as white, Afrikaans-speaking, and two of the lay health workers that sometimes assisted in the TB rooms were Xhosa-speaking. One lay health worker was the only male seen working in the TB service [SA observation notes, May 2003].

#### 4.5.4 *Staff-client interaction*

The relatively spacious areas where interactions between staff and patients took place were used for different types of interactions. No interactions between staff and patients were observed in the passage outside the TB rooms where patients waited, but most took place in the first TB room. This was the busiest space, often used by more than multiple patients and staff at the same time [LW observation notes, October 2003]. Few one-to-one interactions were observed, with patients and staff moving in and out. DOT patients were allowed to move freely in this room, while others had to wait their turn to be seen [LW observation notes, October 2003]. When staff were outside the room or occupied by other work, DOT patients would usually serve themselves by finding their pill containers on the tray, swallowing their pills at the basin in the corner of the room, finding their green cards and leaving the empty pill containers and their green cards on a desk for the lay health worker or nurse to sign [SA observation notes, May 2003]. During busy times interactions tended to be brief and disjointed, were seldom directed at DOT patients, and were seldom one on one [LW observation notes, October 2003]:

“... that's not the way it goes in the clinic. This one comes in, that one comes in. It's got more than  $\frac{3}{4}$  hour to admit the patient... because this one coming and that one coming and the phone is ringing and all these things.” [CT G1 S1: Lay health worker from facility D describing typical consultations]

This multifunctional space was used for DOT, injections for retreatment patients, storing sputum samples, triaging patients and paperwork [LW observation notes, October 2003]. Communication styles ranged from loud, bossy scolding to quiet, concerned discussions, but largely came across as friendly. A strategy commonly employed by some of the staff was to 'mollycoddle' their patients,

using terms of endearment such as ‘darling’, ‘sweetie’, ‘baby’, ‘liefie’, ‘skat’ and ‘engel’ [LW observation notes, October 2003]:

“And some of them they are so cute... If that patient is going to claim they love us, I don’t know – I must run like hell... because they are so cute. Then I say, ‘Hi, good morning sweetie’ and give them a hug and they seem to come the next day to clinic.”  
[CT G2 S3: TB manager]

At times this seemed to demonstrate genuine affection for patients, while on other occasions it seemed to patronise patients into a mother-child or girlfriend-boyfriend role to pacify them [SA observation notes, October 2003]. This seemed to diffuse pressure when dealing with patients who were demanding extra care or patients who seemed potentially volatile or violent, including patients who looked and behaved like gang members. These tricky interactions appeared to be a skilful dance used to sidestep gender and authority tensions while maintaining some control and a façade of patient-centredness [LW observation notes, October 2003].

Patients who were deemed to be ‘problematic’ or requiring additional attention were seen in the somewhat quieter, second consultation room [LR observation notes, May 2003]. These patients included admissions, transfers to other facilities, patients with difficult side-effects, patients wanting to receive batches of drugs while they were away, HIV co-infected patients, patients with other difficulties and questions, and some patients who were unable to understand English or Afrikaans. Xhosa-speaking patients, for example, tended to be spoken to in loud broken English and sometimes with a scolding tone [LW observation notes, October 2003]. Xhosa-speaking lay health workers were sometimes asked to translate. The interactions in this second room were observed taking place between one health provider and one patient who were seated adjacent to a desk [SA observation notes, May 2003]. These communications tended to be more private and continuous, although they were by no means confidential or uninterrupted. Staff moved in and out of this interleading room where some files, equipment and the phone were kept [LR observation notes, May 2003]. Although a thoroughfare for staff, patients were not allowed into the space without being invited in by staff.

The third room seemed to be used for the most confidential consultations and examinations, such as doctors’ sessions [SA observation notes, May 2003]. It also seemed to be used for staff meetings and administrative tasks. The room contained a desk, a chair, a bed and cupboards. No interactions were observed in this room by the researchers. Patients were not seen entering this room other than on doctors’ days [SA observation notes, October 2003].

#### *4.5.5 Researcher-participant interaction*

SA, AM, LR, NP, LW and HS were the researchers involved with the staff from the facility during the project. They were well-received by the staff and interactions were friendly. This welcoming atmosphere continued throughout the project despite changes in staff and members of the research team [SA field notes, March 2004]. Staff were tolerant of or at least open to being observed during their daily routine, although some seemed a little nervous at first. There appeared to be enough continuity within both the research team and the TB staff for the relationship to grow. Over time, staff seemed to become increasingly honest about their perceptions of the project and which elements they were prepared to implement and how [SA field notes, March 2004].

#### *4.5.6 Extent and quality of BMI implementation and adaptation*

Most of the TB staff showed a willingness to engage with the BMI skills that were proposed to them, but none were able to demonstrate these skills when observed during their daily work [LW observation notes, October 2003]. During an initial meeting they showed a keen interest in the interventions presented to them, including BMI, and asked several questions about how the interventions would be implemented and what this would require of them, their clients and their lay health workers [LR meeting report, May 2003]. The BMI training was well attended by nurses and clinic-based lay health workers from this TB service, and most seemed to take an effort to try to complete the practical assignments given to them [SA training notes, August 2003].

During the training one nurse who had previously been observed using a directive communication style with her patients said that the skills being taught were not appropriate for her and she would not be using them [training video, July 2003]. This honest feedback was accepted by the researcher-trainers, with the understanding that she was not ready to try the skills [SA training notes, July 2003]. She did, however, decide to complete the training. After the training, shifts in TB staff in this facility may have even helped to support implementation. One staff member who seemed to be struggling with the skills moved out of the TB service, and new staff who seemed to be more inclined towards this type of approach moved in. When staff were observed interacting with patients after the training sessions had been completed, there was no discernible evidence that some of the BMI skills had been incorporated into their consultation styles, even among staff who seemed to be grappling with the skills during the training sessions [LW observation notes, October 2003].

#### 4.5.7 *Extent and quality of training support and follow-up*

Two scheduled post-training observations were conducted, as well as a number of ad hoc observations that were part of the implementation and evaluation process of other project interventions. The observations, which were conducted by different researchers with different staff members in different rooms and on different days, both before and after the training, were fairly consistent.

### 4.6 Facility B, C and D categories that shaped the grounded theory

A number of variations between the dynamics of the different facilities were noted during the BMI training and implementation period:

- varied individual personalities, consultation styles and readiness for this type of intervention;
- varied working cultures in different health facilities;
- varied working conditions that made the skills easier or harder to try; and
- varied influence of shifting staff in and out of the facilities and their TB services.

### 4.7 A grounded theory of BMI feasibility

The descriptive or narrative process data and analysis in this chapter was examined by comparing the implementation process in different facilities to generate a grounded theory of the feasibility of implementing BMI in these contexts. This theory identified the crucial factors believed to make implementation more or less feasible across these four contexts in two cities over a 3-year period. Seven generated categories of the grounded theory are outlined below.

#### 4.7.1 *Personal predispositions and readiness*

The data suggested that certain individuals seemed more or less likely to experiment with or implement a PCA such as BMI. This did not appear to be dependent on the barriers they faced or the support they received in their work environments from their relationships with their superiors, colleagues or researchers. Instead, observations showed that some people will or will not try and implement this approach despite the context they find themselves in. The BMI skills were simply more or less congruent to some people's way of communicating with their patients. One could argue that this had to do with their personalities or predispositions towards this approach. There was an

example of one person who had a directive and sometimes authoritarian approach who simply acknowledged from the start that BMI was not for her. There was also an example of two people who were already implementing or experimenting with more PCAs in their setting. The BMI training may have reinforced their efforts, but was not believed to be responsible for them. In at least one case, the enthusiasm for implementing BMI and PCAs was observed to vary over time. This seemed to fit with the concept of readiness.

“...the differences between [the two TB nurses’] styles of interaction with patients – ostensibly patient-centred and definitely not, respectively – was striking ... This wasn’t an issue related to success or failure of BMI training as much as the significance of disparate personal communication styles.” [LW observation, 30 Oct 2003]

“I think it depends on personality. And it is true that a person’s personality actually cannot work with certain types of patients all the time. And therefore, it’s actually very important for assessments to be done before a person is placed in a certain category. Some people can adapt and can work through it. And adapt to that thing of working with patients all the time, especially TB patients; I have to change my approach.” [CT S3 G1: TB manager]

“[Patient-centredness] comes out most often also at the right time. And our staff don’t even realise it but they are actually doing it, and it’s there... The patient-centred approach is not completely new, they are actually doing it most of the time.” [CT S3 G1: TB Manager]

“...and you tell the patient, ‘listen, you’re positive, you’ve got TB... if you don’t take your tablets...’, and that’s how we go on and on and on. So now he goes out and ‘What did she say?’... and in 2 or 3 weeks’ time, now he is going to be fed up because no one else is going to talk with him. You are not giving him time to come back tomorrow and then ‘How is it?’, because you are always in that hurry, you are always wanting to get that queue done. That queue can wait! That’s what I’ve learned – they must wait. If they don’t want to wait, you give your turn. You know if you don’t want to wait, that’s how I feel at the moment, you’ve got to make time for every single patient. It’s not going through all the questions, but so that they can ask questions...” [CT G2 S1: TB nurse on efforts to improve consultations]



“The way I feel now, I’m not ready to change. The reason why, you go for courses, then you come back and you don’t get the opportunity to do what you’ve learned. There is no readiness in me.” [CI written response on evaluation form, July 2003]

#### 4.7.2 *Staff movement and stability*

The extent to which key people move in and out of the TB service influenced the implementation of BMI. The shifting of TB staff was a common feature among all the facilities except for facility A in Port Elizabeth, where the common management practice of staff rotation had been suspended for TB staff. Staff shifted within and between facilities as a part of management decision-making, but also took place as certain staff members pursued new opportunities outside of public health services. Provided there was enough continuity to maintain a basic level of functioning, data indicated that facilities’ response to the introduction of BMI had less to do with the amount and frequency of movement and more to do with who was shifted in or out. Those staff and managers that were observed to be the most or the least prone to implementing BMI-type interventions at the time were the most influential movers and shakers. Thus there were examples where the movement of ‘BMI-prone’ staff out of the service significantly reduced the quality of care, and where there was little or no impact because supportive people remained or replaced them. The reverse was also true as staff that were not prone to BMI moved out of the TB service.

#### 4.7.3 *Leadership, authority and group cohesion*

People with leadership, gatekeeping and implementation roles were crucial to the implementation process. All had the power to promote (e.g. facility A) or undermine (e.g. facility B) the intervention. This is not to say they had all the decision-making power, but that those in leadership positions set the tone for how staff functioned together and their orientations towards proposed improvements:

“...the tone of the clinic creates the backcloth that allows non-patient-centred interactions to continue unchallenged, and for change to be resisted (through passive aggression).” [LW observation notes, October 2003]

This is not to say that people lower down in the health system hierarchy were powerless — but they did have less power. No matter what a person’s position was in the TB service, they still had the power to sabotage new interventions and working relationships with colleagues. There were examples of passive-aggressive behaviour in facility B in particular, but also suggestions of this counter-productive power of inertia in facility C. This sometimes juxtaposed the power and interests

of gatekeepers with the power and interests of intended implementers. The most influential leaders, therefore, were those who were able to straddle gatekeeping and implementation roles.

There were also many examples where people had the respect of the colleagues and were natural leaders without having formal positions of authority in facility A and facility D. Facility D was a good example of how the mix of these different characters under a leader who placed little emphasis on hierarchy within the team seemed to create an atmosphere of mutual respect, trust and collaboration. It seemed that the group dynamic allowed them the room to challenge each other, have different approaches and respond well to potential improvements, such as BMI. This was related to the fluctuating levels of creativity and depression observed at different facilities, although it is difficult to differentiate between what was attributable to leadership and what to group cohesion.

#### 4.7.4 *Pressures on staff*

“We have some fun too, hey ... so it’s not all that bad.” [CT G2 S1: TB nurse discussing her work in TB]

Despite the above quote to the contrary, participants painted an almost overwhelming picture of the challenges of their work. As BMI was introduced, participants repeatedly referred to competing demands that they were trying to address simultaneously. They seemed to feel stuck between the demands that the health management placed on them to improve on the one hand, and the needs and rights of patients on the other. They felt the personal and health service resources available to them were wearing thin. Their workloads were increasing, while their number of colleagues, facility space and equipment were decreasing:

“All clinics have such big numbers ... big workloads, so you tend to just call ‘next’, ‘next’, ‘next’ and that can be a problem for some people ... so the best is to just assess each one individually, but it’s not easy in the clinic situation.” [CT G1 S2 TB nurse/manager]

“Because it’s not questions that you commonly ask, especially in our work situation – it’s too time-consuming which is probably the wrong thing to say here, to give an open-ended question to a patient because you know there’s 50 patients waiting... to see you, you’re going to restrict it to closed-ended questions because it’s easier for [limited] time...” [CT S3 G1: Nurse]

They wanted to care for the health of their patients, but being close to them was sometimes a threat to their personal health (e.g. TB infection) and safety (e.g. aggressive patient behaviour). They felt unable to meet the demands of their patients:

“The people I’m working with, they are very impatient. They will come pack in the room. If you say, ‘You must wait outside’, they don’t understand. They don’t want to accept it.” [CT G2 S1: TB nurse on TB consultations]

“You know that is actually how we work in [our facility]. The bench is full in the morning and everyone wants to be helped. Like I said to the one, ‘Please take a seat, you’re not collecting any fish money, I didn’t owe you something. Take a seat so long there.’ And if you talk to a patient, then somebody bursts in like ‘I want to be helped. Please help me quickly, I must go to work.’ They’ve got no manners, but I teach them manners ... first of all [chuckles]. [CT G2 S1: TB nurse on TB consultations]

“But when you’re in the clinic, you’re behind doors and walls. They don’t see what you’re doing – you’re busy. You know, you’re just making it to get the next one in. Half the time you don’t even do your recording up-to-date because you know what you’re going to write and you leave it till a bit later just to get through with the patients. And the patients don’t always realise what is going on behind the doors. ...So from each side, the Sisters think they’re rude; they think we’re slow – we’re ignoring them so.” [CT G1 S1: Nurse on TB consultations]

“I felt very frustrated because I know he was telling lies. But I was just listening to him but I didn’t feel like saying anything. What I asked him was, what was important for him at that moment – his health or his problems. So he said both are important. But it was such a lot of problems that I didn’t feel like talking – I was just listening... I referred him to the social worker ... I didn’t see him again.” [CT G1 S2 nurse/manager]

As a result, staff seemed to feel tired, overburdened and needy themselves. They alluded to the idea that they were being expected to provide high-quality care, while their own needs were not being met.

#### 4.7.5 *Patient poverty*

The poverty of their patients stared them in the face on a daily basis, and it was hard not to take this personally and get involved:

“...there are many poor people. Sometimes you advise the patients to take healthy food, but you don’t think of the poverty...” [CT G2 S1: TB nurse]

“And they tell you, ‘I can’t drink the tablets because I don’t have food.’ Then you give them an alternative, ‘You can go into hospital and you will get everything. You’ll get your lunches, you get your breakfast, you get your medication.’ But then they have an excuse, ‘But what about my children? What about my husband? Can’t I go next week? I don’t think this week will be ok because I must sort this and this and that out. I will go the week after that.’” [CT G1 S1: TB nurse]

“The disadvantages [of BMI] can be ... you get too emotionally involved sometimes ... A lot of patients don’t have anything to eat and I normally bring from my house and I give to them. So you do get involved emotionally.” [CT S3 G2: Lay health worker]

Although this was initially categorised as a subcategory of staff pressures, it was repeated so frequently that it emerged as a category of its own.

#### 4.7.6 *TB policies and protocols*

These pressures inhibited their responsiveness to most new interventions, including BMI. Although patients may respond well to the use of BMI skills, this type of a PCA did not seem to fit with the targets, policies, protocols and record-keeping forms that are prioritised in the TB programme:

“They talk such a lot if you ask the open question. If you now really sit and do it then you get such a lot out of them that at the end of the day, you don’t need to ask such a lot of questions, like closed questions. So they talk and talk.” [CT S3 G1: Nurse/manager]

“Sometimes you just ask them one question and take all their problems.” [CT S3 G1: Lay health worker]

“What the next person tells you is not always what you want to hear, so you need to ... ask [about] the specifics, otherwise you will not be able to record the necessary things. That person might not give you the information in the order that you wanted ... and TB has a whole lot of forms” [CT G1 S2 nurse]

“He wants [all] his tablets now – he’s going [away while] on treatment. Because the other time [the patient] had TB, they gave his tablets to him. And now [the patient says], ‘I’m a reliable person. Do you think I’m not going to drink them’. I said, ‘Sir, I can see you look reliable but I’m going to talk about you now. The government says you must drink your tablets *under supervision*, Sir!’ He says, ‘Oh sister, is that so... ok, I’m going to take it.’” [CT G1 S2 nurse/manager]

“So sometimes you don’t think of the circumstances of the client. You just want them to come drink their tablets so that you can have a good compliance and cure rate.” [CT G1 S1: Nurse/manager on TB consultations]

This inconsistency between the TB control policies and protocols and the proposed intervention to enhance TB care meant that competing demands were placed on participants who were trying to implement BMI.

#### 4.7.7 *Time and space for improved care*

Another influential factor suggested by observation data across all participating health facilities was the availability and use of time and space. Space was limited in each of these settings, despite the fact that facility A and D had more than one room available and facility C had one extremely small room available. TB patients were typically asked to come to the facility in the mornings, while afternoons were largely reserved for nurses’ paperwork. This meant that there were times when even the most spacious facilities were crammed with patients rushing the staff off their feet, and there were also times when even the smallest clinics were almost empty and staff seemed to have nothing to do.

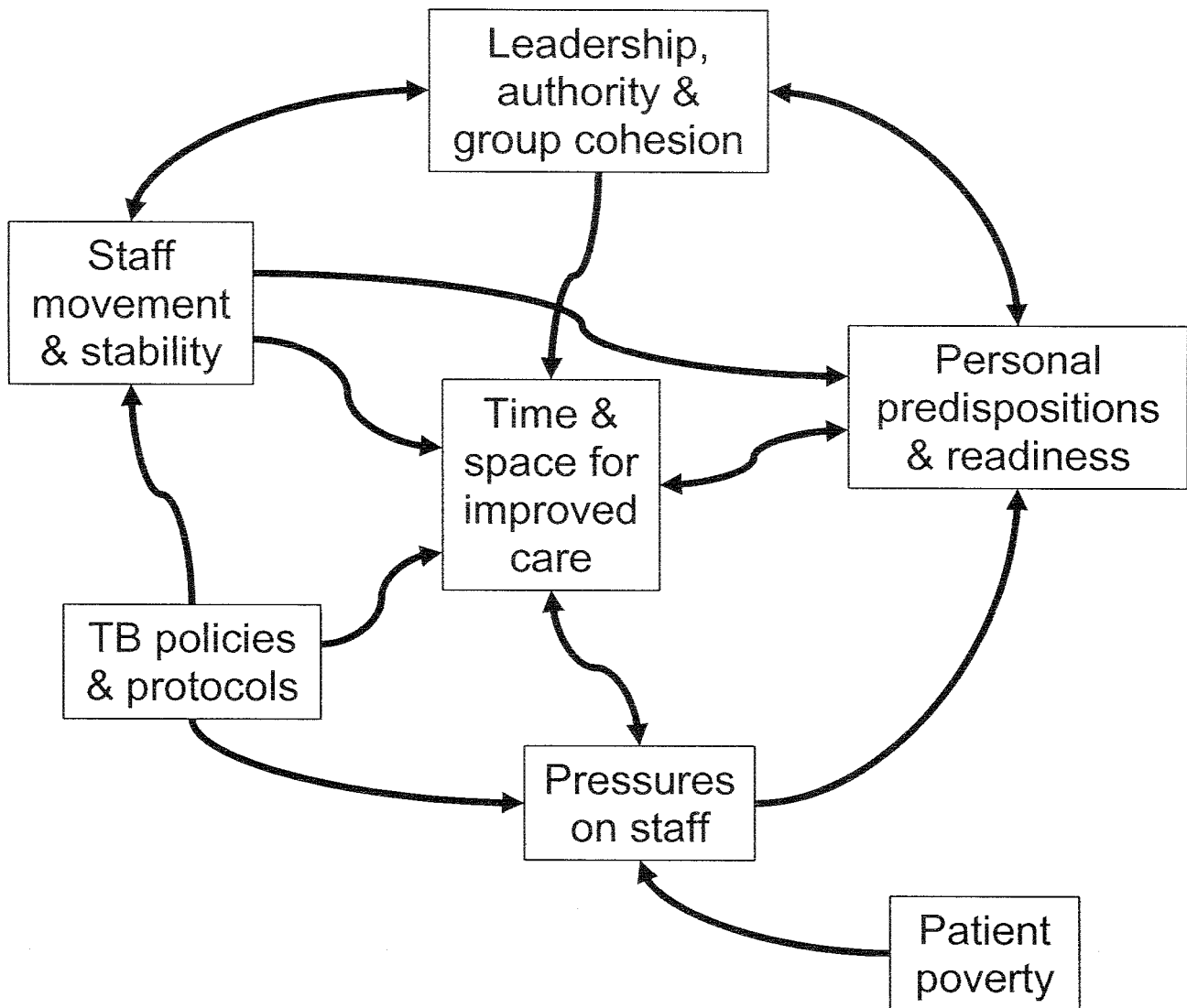
Researchers felt that this was not conducive to collaborative approaches to care, such as BMI. However, some of the staff and facilities were implementing some creative alternatives to this ‘all or nothing’ system of managing the flow of patients and organising daily activities. Although the staff were perhaps not aware of it, facility D (which admittedly was more spacious) had used their space to create levels of privacy in different spaces. This allowed

selected TB patients to receive more confidential care, depending on the needs identified. Another nurse in a facility with much more limited space simply decided to close the room door while seeing patients individually. Although these ideas do not seem like rocket science to outsiders, they seemed rare and innovative within this context. There is the potential for similar ideas about the use of time and space in a TB service to create more opportunities for caring consultations, even if they are brief.

However, TB staff may have been unconsciously using their space and the timing and structure of their work to gain some control over their chaotic environment where so many things seemed beyond their control. This may have acted as a defence against the threats of possible TB infection, physical violence and other demands placed on their performance by patients, managers and researchers.

## 4.8 Relationships and processes

While the product of the grounded theory analysis (i.e. core categories) is important, so are the relationships between the core categories and the study implementation and analysis process. In order to better understand a particular grounded theory, the relationships between categories are often explained in further detail (Willig, 2001). This sometimes results in the researcher merging or subdividing categories in the analysis. It is often helpful to diagrammatically represent the links that emerge from the researcher's analysis. Such a diagram has been generated for the grounded theory generated through the data analysis of this thesis in Figure 4.2.

**Figure 4.2** The relationships between the study's grounded theory categories.

While direct and indirect relationships emerged between all of the core categories, the links with two of the core categories were notable. The category of time and space for care emerged as the most common link between most of the categories. This might suggest that this category is a combined result of the categories to which it is linked or simply that it is central to the other categories. The relationship may also apply in both directions. The patient poverty category is also unique in that it was only linked to the pressures experienced by staff. This points to a disjuncture between issues of poverty and more systemic categories such as policies and protocols. It was also noted that both patient poverty and TB policies and protocols appeared to have a unidirectional influence on the categories they were related to.

Further light can be shed on these categories by examining the relationship between the data and the process-oriented sub-questions of the study. These are outlined in Table 4.3.

**Table 4.3 Summary of how the study findings addressed research sub-questions regarding BMI feasibility.**

<i>1. What were the current communication practices of facility-based staff in the study context?</i>
Observed patient-provider communication in the health facilities varied according to the health providers involved, the patients' point in their treatment journey, the volume of patients being seen at the time and the way that limited space was used. Communication typically took place in busy, congested, multifunctional spaces with little or no room for private, one-to-one consultations. Most observed communication was brief, fragmented and frequently interrupted as health providers focused on dealing with multiple tasks and patients, following protocols, keeping records and managing their workloads. Friendliness, joking and teasing were observed in all settings. Threats and information provision were the most commonly reported communication strategies to promote treatment adherence.
<i>2. How was BMI developed and adapted for this context?</i>
BMI tools, training and support were developed and adapted by researchers through a participatory action research process. Aspects of the intervention package were adapted to consider the current communication practices, the responses of participants, TB policies and protocols and existing quality improvement initiatives.
<i>3. What happened when trying to implement BMI in a South African context of TB treatment?</i>
Implementing BMI involved a complex interaction between facility staff, TB patients, managers and researchers or trainers. Each of these actors had competing demands and priorities for change and different levels of authority and power of influence over the implementation process.
<i>4. How did health providers and managers perceive and respond to BMI?</i>
TB staff had mixed feelings about BMI and found the skills presented difficult to incorporate into their daily practice. On the whole, health providers and managers showed that they understood and valued the BMI skills and the dimensions of a PCA implied in the design. However, staff felt that it was incongruent with the demands placed on them. Participants enjoyed the training and the opportunity to interact with people working in other health facilities. They appeared to value the participatory research and training process more than its content. The interaction, mentoring and training process and style appeared to give them space for focusing more on their own needs and the pressures of their daily work. Most seemed to have little or no other formal opportunities to do so.
<i>5. How was BMI implemented in this context, if at all?</i>
Researchers introduced BMI through a participatory training and research process. There was little or



no evidence of BMI skills being implemented in TB services after the training. Observed examples of patient-centred communication and BMI were attributed more to pre-existing personal communication styles than to the influence of the BMI training itself.

## 4.9 Significance and quality of the findings

Care should be taken to avoid generalising these findings and relationships outside of their context. The small number of facilities involved, credibility of the data and trustworthiness of the findings should also be considered. The context, researchers, participants and methods should be considered when relating the findings to other contexts and studies (Willig, 2001).

Different audiences are likely to interpret and value these findings in their own way. The AFDOT study (from which this thesis is drawn) findings were expected to be of most interest to health policy-makers, programme managers, trainers and researchers in the field of TB in particular, but also those working in HIV/AIDS and other chronic conditions. Policy-makers may be interested in what the findings say about the way that TB policy translates into the communication practices of TB staff, and ways in which TB control policies may inhibit care, adherence or treatment outcomes. Health managers may be more interested in the effectiveness of interventions like BMI in improving adherence and treatment outcomes or the impact of health management policies, approaches and styles on initiatives to improve the quality of health services. Health educators would perhaps be more concerned about what the findings might say about the best ways of training health staff in communication related to adherence and health behaviour change. The usefulness of grounded theory in addressing these types of research questions would be of likely interest to health researchers.

While the findings of the present study address aspects related to many of these questions, they certainly should not be used to draw definitive conclusions on these subjects. This is not only because of the research questions and methodologies used, but because this study is located within the context of a larger study with other interventions involved. The study findings do, however, have a number of practical and theoretical contributions for these audiences. These are examined in the sections that follow.

## 4.10 Relationship to the literature, context and intervention design

The study's descriptive and analytical findings have a number of implications for the researcher's understanding of the literature, context and theory held early on during the study process. The findings may contribute to the literature on the context of TB care, the challenges involved in initiatives designed to improve TB control and care, and the inconsistencies between policies, intervention designs and practice.

The data showed how complex and varied the dynamics in four health facilities in a rapidly changing context of public health services in South Africa can be. This was despite the fact that all these facilities were based in similar types of urban and peri-urban areas and were relatively well resourced. While the South African health context is well-described in the literature, research describing some of these interpersonal dynamics within facilities is limited (Van der Walt, 1998). The findings of the present study also illustrated how overwhelming and demanding health providers perceive their working environments to be, and the feelings of helplessness and powerlessness that they sometimes feel. One category that was notably absent from the data was the challenge that HIV posed to TB treatment and care. This may have been due to the fact that the study was presented to participants as having a TB focus, or may be an indication of lower HIV prevalence in the catchment areas of these health facilities.

Unfortunately, the international TB policy context with its unwavering promotion of the DOTS intervention package and DOT does not appear to consider some of these contextual complexities. Just as the concept of DOT is not uniformly transferred down to health providers to improve control, the even less frequently mentioned concept of a PCA cannot be expected to translate easily into improved care. The present study demonstrated that a PCA to communication, like BMI, may not be feasible to implement despite its apparent acceptability to staff, efforts to tailor the approach to fit the existing context, and intensive training and follow-up support.

The concept of a PCA seemed acceptable to the health providers involved in the study and their interpretations were congruent with the literature on the topic, but they prioritised its dimensions differently. They did, however, battle with the BMI operationalisation of the concept. Although some indicated that they felt it was important and that they were confident they could use it, observations of practice indicated that most were not able (and in some cases not willing) to apply it in their daily work.

The study data suggested that there may have been gaps in the efforts to promote a PCA to communication through BMI training and follow-up support. This also linked back to the demands placed on health providers in the context they were expected to implement it in. There were indications that there was a mismatch between their working contexts and the BMI skills. Although trainers were able to provide practical examples and demonstrations of how BMI skills might be applied in TB, the gap between their working contexts and the skills may have been too great.

#### 4.11 Links to theory

The grounded theory that was generated by the researcher from the data may also raise some questions about the theoretical models and frameworks that were used. Researchers found the Chronic Care Model (Kitahata, Tegger, Wagner, & Holmes, 2002), the Information-Motivation-Behavioural skills model (Fisher & Fisher, 1992) and the concept of readiness to change (Prochaska & DiClemente, 1984) to be helpful guides through the intervention design and implementation process, but these theories do not necessarily relate closely to the study's grounded theory.

The Information-Motivation-Behavioural skills model may be linked to the grounded theory category regarding individual predispositions and attitudes regarding the BMI approach and the role they played, or it may suggest that the training addressed the information aspect sufficiently but failed to ensure that participants were provided with the skills and the motivational support to implement BMI. This explanation, however, feels incomplete.

The concept of readiness to change did seem to be congruent with the grounded theory findings. The term 'readiness' was used to describe the first core category of the grounded theory. The use of the term and the concept, however, were included in the BMI training and are an integral part of the theory underpinning the MI method in the first place. This 'readiness' talk may be one of the functions of the researcher's approach to the data and is arguably not closely linked to the grounded theory that was generated.

The Chronic Care Model perhaps had the most parallels with the grounded theory that resulted. Its concepts regarding the way the design and management of health systems and health services impact on health teams and provider-patient interactions were related to a number of the core categories generated. There are parallels related to the practice of staff rotation, management and leadership styles and team functioning and cohesion. The more descriptive findings regarding the fragmented

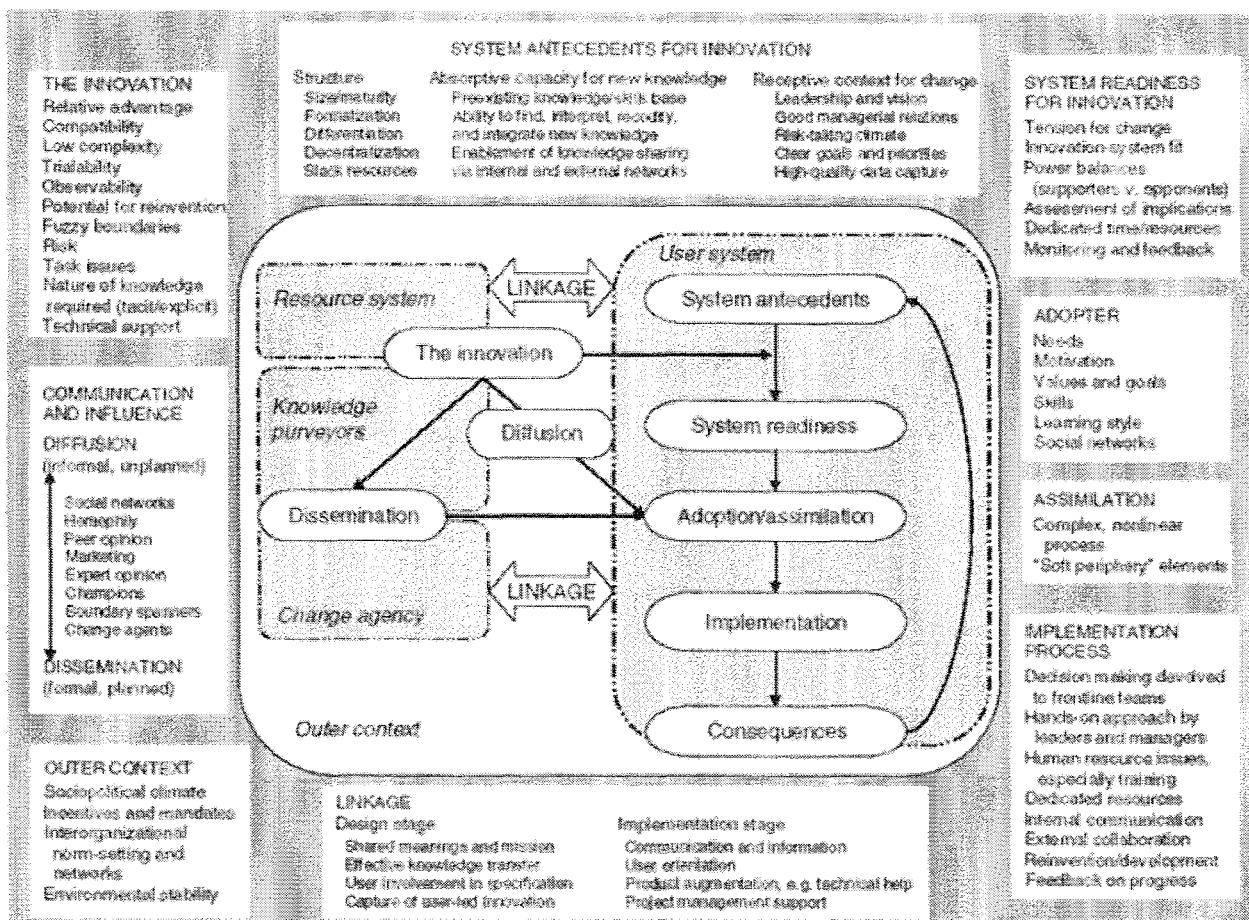
care offered to TB patients suggest that the TB policies and protocols are geared for addressing TB as a chronic condition and may need to be rethought.

Although the Chronic Care Model pointed to some systemic factors in the health care system, it did not relate well to the poverty category that developed across each of the facilities. The model refers broadly to community level factors but does not show the extent to which poverty impacts on patient-provider interaction. This links back to the work of some authors, who would in all likelihood suggest that these type of factors play an overriding role. Farmer (1997) would argue that even if a PCA is implemented, a PCA alone would be insufficient to address the complex factors beyond the control of a patient. The Chronic Care Model and the grounded theory from this study, however, suggest that a number of complex health system factors beyond the control of the health provider influenced the feasibility of implementing the PCA, BMI, in this context.

#### **4.12 A more comprehensive perspective on the findings**

The present study findings can be placed within the results of a new and profound systematic review that was published after the present study's literature review was completed. This study reviews literature that addresses the question of how health care and organisational innovations can be spread and sustained in health systems (Greenhalgh et al., 2004). It considers studies from a wide variety of disciplines relating to both the content of interventions and the process by which they are spread to develop a unifying conceptual model of diffusion in service organisations (Greenhalgh et al., 2004). Represented in the figure below, this model addresses the factors that the reviewed studies identify regarding the innovation, its adoption by individuals, its assimilation by the system, the diffusion and dissemination, the system antecedents for innovation, the system readiness for innovation, and the outer context of interorganisational networks and collaboration, implementation and routinisation. The strengths of the evidence regarding each of these model components are described, as are the nature and value of the relationships between these components (Greenhalgh et al., 2004).

**Figure 4.3** Conceptual model of determinants of the diffusion, dissemination and implementation of innovations in health service delivery and organisation (Greenhalgh et al., 2004).



The conceptual model is based on a comprehensive review of evidence and could arguably claim to be generalisable and applicable to all innovations of this nature in a health system context. It strongly resonates with the findings of the present thesis and expands on many of the categories included in the grounded theory. It incorporates individual factors, elements of the implementation process and the system itself and its design and management. It acknowledges factors in the wider context outside of the system that may be influential, but does not, however, specifically refer to socio-economic factors such as poverty. Patient poverty is likely to affect other TB programme implementation in low- and middle-income country settings. The model also identifies the value of linkage between the different aspects of the model. This resonates with the incongruity experienced in the findings of this thesis, which suggested that there was a mismatch between TB policies and protocols for treatment and a patient care orientation. The conceptual model also expands on how the characteristics of the innovation itself might influence its diffusion. Although the literature reviewed in this thesis identified this as a factor, no core categories regarding this were generated. It was, however, suggested in the process data.

The congruency between the grounded theory of this thesis and the conceptual model of Greenhalgh et al. (2004), suggests that the grounded theory of the feasibility of BMI in the study context could easily position within the model. The conceptual model seems extremely helpful and should be considered when designing future interventions and studies that involve some sort of diffusion of innovation in service organisations.

### 4.13 Future research and interventions

The present study generated a description of the process of developing and implementing BMI across four urban health facilities and develops a theory of BMI's feasibility which is grounded in this context. Its results and methodology do, however, seem to raise more questions than providing definitive answers.

Some of the questions raised are about the wider systemic factors that influence the quality of relationships between health providers and patients. Future interventions need to consider addressing wider system issues related to poverty and TB policy and protocols. This would include community-based interventions rather than exclusively focusing on health services, as was the case in this study.

Other questions are raised about the relevance and applicability of a PCA in this context of TB treatment. Additional data drawn from the larger AFDOT study would no doubt add richness and additional layers of complexity to the grounded theory. Using constant comparative analysis will highlight differences and similarities between different interventions designed to enhance patient-centredness and in all likelihood include something about the qualities of the interventions themselves. Depending on how future studies address these questions, further research would be required on how contextually appropriate PCAs can be developed and if and how these approaches should be introduced, implemented and sustained in health services for TB, HIV and other chronic conditions. The debate surrounding DOT continues, as some are suggesting that it is an appropriate approach to ensuring adherence to antiretroviral treatment for HIV/AIDS (Liechty & Bangsberg, 2003a).

In addition to research that looks wider, more research is needed to look deeper. Communication strategies in TB programmes and treatment are starting to emerge in the literature (Thuy et al., 2004).

This provides an opportunity to explore what quality of care, communication and ‘patient-centredness’ might mean to TB health providers and patients. This could inform the development of interventions and should arguably involve health providers and patients directly in the design process. This would hopefully address the gaps between the interventions that are currently available, such as BMI, and the context of implementation. Innovators, champions and other improvement leaders would also be crucial to the process. Without practical and relevant approaches to enhancing patient-provider communication in the context of TB treatment, their potential impact on treatment adherence and outcomes cannot be assessed.

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## Addenda

### Addendum A: Overview of determinants of compliance as reviewed by Haynes (1976a)

<i>Classification</i>	<i>Features or characteristics</i>
1. Demographic features of patients (59 studies)	<ul style="list-style-type: none"> <li>• Age</li> <li>• Sex</li> <li>• Education</li> <li>• Socio-economic status</li> <li>• Occupational status</li> <li>• Income</li> <li>• Marital status</li> <li>• Race</li> <li>• Religion</li> </ul>
2. Features of the disease (32 studies)	<ul style="list-style-type: none"> <li>• Diagnosis (e.g. psychiatric diagnosis*)</li> <li>• Severity</li> <li>• Duration</li> <li>• Previous bouts</li> <li>• Recency of last attack</li> <li>• Previous hospitalisation</li> <li>• Length of stay in hospital</li> <li>• Previous therapy</li> <li>• Degree of disability</li> <li>• Symptoms</li> </ul>
3. Features of the therapeutic regimen (41 studies)	<ul style="list-style-type: none"> <li>• Type of medication</li> <li>• Degree of behavioural change required*</li> <li>• Complexity*</li> <li>• Duration*</li> <li>• Cost</li> <li>• Side-effects</li> <li>• Dosage</li> <li>• Use of safety dispenser</li> </ul>
4. Features of the therapeutic source (22 studies)	<ul style="list-style-type: none"> <li>• Therapist's prediction of compliance</li> <li>• Interviewer's prediction of compliance</li> <li>• Particular physician</li> <li>• Assignment of a specific physician</li> </ul>

	<ul style="list-style-type: none"> <li>• Private vs. public physician</li> <li>• GP vs. psychiatrist for psychiatric patients</li> <li>• Regular vs. substitute physician</li> <li>• Clinic convenience*</li> <li>• Clinic waiting time*</li> <li>• Referral to specific doctor vs. referral to clinic</li> <li>• Time between screening and referral appointment*</li> </ul>
5. Features of the patient-therapist interaction (14 studies)	<ul style="list-style-type: none"> <li>• Level of supervision*</li> <li>• Patient's satisfaction with a specific visit, therapist or clinic*</li> <li>• Patient's general attitudes re: health professionals and care</li> <li>• Patient's expectations met</li> </ul>
6. Sociobehavioral features of patients (55 studies)	<ul style="list-style-type: none"> <li>• Patient's perception of*:             <ul style="list-style-type: none"> <li>• The disease as serious</li> <li>• Personal specific susceptibility</li> <li>• General susceptibility to disease</li> <li>• Efficacy of therapy</li> <li>• Therapy as painful</li> </ul> </li> <li>• Knowledge of disease, therapy</li> <li>• Intelligence</li> <li>• Education</li> <li>• Compliance with other aspects of regimen</li> <li>• Previous compliance*</li> <li>• Attendance at appointments</li> <li>• Influence of:             <ul style="list-style-type: none"> <li>• Family</li> <li>• Friends</li> <li>• Family stability*</li> <li>• Family size</li> </ul> </li> </ul>

\*Factor shown to be associated with non-compliance (Haynes, 1976a)

## Addendum B: Summary of targeted strategies to promote adherence

<i>Patient-targeted strategies</i>	<i>Provider-targeted strategies</i>
<ul style="list-style-type: none"> <li>• Targeting high-risk patient groups according to their demographic features (Hovell et al., 2002)</li> <li>• Improving knowledge/education               <ul style="list-style-type: none"> <li>○ Educational pamphlets, booklets, visual aids and other written materials (Dick &amp; Lombard, 1997; Dick et al., 1996; Haynes et al., 1996; Homedes &amp; Ugalde, 2001)</li> <li>○ Verbal education by health providers (Homedes &amp; Ugalde, 2001)</li> <li>○ Labelling drugs appropriately (Agyepong et al., 2002)</li> </ul> </li> <li>• Increasing motivation               <ul style="list-style-type: none"> <li>○ Motivating to patients why the treatment is important and effective (Jaret, 2001)</li> <li>○ Rewarding patients or offering incentives for adherent behaviour (Bamberger et al., 2000; Haynes et al., 1996)</li> <li>○ Improving their confidence in their own ability to manage (WHO, 2001a)</li> </ul> </li> <li>• Enhancing self-management and other behavioural skills               <ul style="list-style-type: none"> <li>○ Enhance self-monitoring and management skills (Ockene et al., 2002)</li> <li>○ Patient self-regulation (Williams, Rodin, Ryan, Grolnick, &amp; Deci, 1988)</li> <li>○ Self-monitoring tools, such as pill diaries and patient-held records (Homedes &amp; Ugalde, 2001; Safren et al., 2001)</li> </ul> </li> <li>• Assessing, monitoring and supervising adherence (Chesney et al., 1999; Homedes &amp; Ugalde, 2001; Sbarbaro, 1979; Sbarbaro, 1985)</li> <li>• Providing cues, prompts or reminders like:               <ul style="list-style-type: none"> <li>○ Written instructions, messages or letters (Macharia, Leon, Rowe, Stephenson, &amp; Haynes, 1992; Sbarbaro, 1985)</li> <li>○ Telephone calls or cell phone, pager or e-mail messages (Bamberger et al., 2000; Goode, McMaugh, Crisp, Wales, &amp; Ziegler, 2003)</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Improving providers' knowledge and awareness of:               <ul style="list-style-type: none"> <li>○ Potential non-compliance (Sbarbaro, 1985)</li> <li>○ Psychological and spiritual dimensions</li> </ul> </li> <li>• Increasing providers' motivation</li> <li>• Enhancing providers' skills through training on:               <ul style="list-style-type: none"> <li>○ Teaching</li> <li>○ Communication (Agyepong et al., 2002)</li> <li>○ Patient-centred care (Vermeire et al., 2001)</li> <li>○ Quality improvement (Ockene et al., 2002)</li> </ul> </li> <li>• Developing guidelines and care plans that are standardised and simple (Erhardt, 1999)</li> <li>• Providing incentives for improvements in outcomes (Divertie, 2002; Homedes &amp; Ugalde, 2001; Ockene et al., 2002)</li> </ul>

<ul style="list-style-type: none"> <li>○ Alarms (Goode et al., 2003)</li> <li>○ Linking doses to daily habits and schedules (Goode et al., 2003)</li> <li>○ Medication boxes, timers or dosage counters (Goode et al., 2003; Vermeire et al., 2001)</li> <li>● Group psychotherapy (Sweetland, Albújar, &amp; Echevarria, 2002; Vermeire et al., 2001)</li> </ul>	
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<i>Relationship-targeted strategies</i>	<b>Treatment-targeted strategies</b>
<p>Intervention strategies that aim to enhance relationships and encounters between patients and providers (Butler, Rollnick, &amp; Stott, 1996; Jarboe, 2002)</p> <ul style="list-style-type: none"> <li>● Largely focused on the quality of these interactions, but also duration and frequency</li> <li>● Enhancing providers' communication styles                             <ul style="list-style-type: none"> <li>○ Demonstrating friendliness, approachability and encouragement (Vermeire et al., 2001)</li> <li>○ Sharing decision-making, encouraging patient autonomy and control in the process (Vermeire et al., 2001)</li> <li>○ Playing a coaching role and withholding judgement (Vermeire et al., 2001)</li> <li>○ Using a listening, eliciting, collaborative approach (Vermeire et al., 2001)</li> <li>○ Using suitable language (Jaret, 2001; Vermeire et al., 2001)</li> <li>○ Tailoring interventions to suit the needs expressed by patients (Chesney et al., 1999; Vermeire et al., 2001)</li> </ul> </li> <li>● Exploring patients' perspectives                             <ul style="list-style-type: none"> <li>○ Their daily experiences and stresses (Jarboe, 2002; Jaret, 2001)</li> <li>○ Their understanding and expectations of their treatment and its side-effects (Jaret, 2001; Sbarbaro, 1985; Vermeire et al., 2001)</li> <li>○ Their concerns and beliefs (Divertie, 2002)</li> <li>○ Their satisfaction with their treatment (Vermeire et al., 2001)</li> </ul> </li> <li>● Educating patients and their families                             <ul style="list-style-type: none"> <li>○ Eliciting their perceptions before providing</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>● Improving the effectiveness of treatments by improving the immediacy of beneficial effects, for example (WHO, 2001a)</li> <li>● Improving the availability and accessibility of treatments by developing cheaper treatments, for example (Jarboe, 2002; Vermeire et al., 2001; WHO, 2001a)</li> <li>● Making the doses easier to take by:                             <ul style="list-style-type: none"> <li>○ Reducing the complexity of the therapy (Jaret, 2001; WHO, 2001a)</li> <li>○ Shortening the treatment duration (Sbarbaro, 1985)</li> <li>○ Decreasing the number of times that medication has to be taken (Sbarbaro, 1985)</li> <li>○ Limiting the number of pills that need to be taken at a given time (Chesney et al., 1999)</li> <li>○ Reducing dosing intervals (Jarboe, 2002)</li> <li>○ Changing the size of the pills (Homedes &amp; Ugalde, 2001)</li> <li>○ Changing the method of administration of the medication (e.g. orally, intravenously or implants) (Jarboe, 2002)</li> <li>○ Tailoring the regimen to suit the patient (Sbarbaro, 1985) or the disease condition (Roter et al., 1998)</li> <li>○ Introducing user-friendly packaging for medication (Homedes &amp; Ugalde, 2001; Vermeire et al., 2001)</li> </ul> </li> <li>● Adjusting the visibility of the regimen, where stigmatised diseases are concerned</li> </ul>

<p>information (Vermeire et al., 2001) and providing appropriate information (Jarboe, 2002)</p> <ul style="list-style-type: none"> <li>○ Providing written information reinforced by verbal information (Vermeire et al., 2001)</li> <li>○ Providing information that is clear, simple, credible and practical (Divertie, 2002; Vermeire et al., 2001)</li> <li>○ Clarifying the regimen and ensuring that it is understood (Chesney et al., 1999)</li> <li>○ Combining educational and behavioural strategies (Vermeire et al., 2001)</li> <li>● Encouraging self-management, planning and follow-up (Safren et al., 2001; Vermeire et al., 2001; Williams et al., 1988)             <ul style="list-style-type: none"> <li>○ Troubleshooting potential obstacles (Jaret, 2001)</li> <li>○ Building reminders into the treatment plan (Jaret, 2001)</li> <li>○ Negotiate plans and goals (Ockene et al., 2002)</li> <li>○ Including a plan to monitor compliance (Jaret, 2001)</li> <li>○ Make an agreement with the patient about roles – this may be in the form of a verbal or written contract (Ockene et al., 2002)</li> <li>○ Follow-up contacts</li> </ul> </li> <li>● Prioritising and solving problems that occur (Chesney et al., 1999; Paul, 2002)</li> <li>● Acknowledging progress, successes and achievements (Divertie, 2002)</li> </ul>	
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<b>Social context-targeted strategies</b>	<i>Health system-targeted strategies</i>
<ul style="list-style-type: none"> <li>● Increasing social support             <ul style="list-style-type: none"> <li>○ Engage family or friends in treatment process and encourage them to take on a supportive role (Divertie, 2002; Jaret, 2001)</li> <li>○ Involve community members or lay health workers to provide supervision and support during the treatment process</li> <li>○ Support groups or counselling for family (Divertie, 2002; Homedes &amp; Ugalde, 2001)</li> </ul> </li> </ul>	<p>Health system-targeted intervention strategies</p> <ul style="list-style-type: none"> <li>● Policy and management strategies             <ul style="list-style-type: none"> <li>○ Shifting from acute care models towards Chronic Care Models of service delivery (WHO, 2001a)</li> </ul> </li> <li>● Involving all those with a role to play in adherence, including the pharmaceutical industry, policy-makers and governments (Homedes &amp; Ugalde, 2001) and health service managers and staff</li> </ul>

<ul style="list-style-type: none"> <li>○ Provide education and support for them through the treatment process</li> <li>• Sensitivity to social factors             <ul style="list-style-type: none"> <li>○ Cultural meaning of illness (WHO, 2001a)</li> <li>○ Stigma (WHO, 2001a)</li> <li>○ Ensuring that interventions are culturally appropriate (Lerner et al., 1998)</li> </ul> </li> <li>• Working in conjunction with traditional health care providers, where appropriate (Divertie, 2002)</li> <li>• Influence the public's understanding of illness and the associated stigma             <ul style="list-style-type: none"> <li>○ Education programmes based in schools and workplaces (Divertie, 2002; Williams et al., 1993)</li> <li>○ Peer education programmes (Divertie, 2002)</li> <li>○ Mass media campaigns (Homedes &amp; Ugalde, 2001)</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Improving the capacity of health services to:             <ul style="list-style-type: none"> <li>○ Educate patients (WHO, 2001a)</li> <li>○ Provide access to treatment and follow-up (WHO, 2001a)</li> <li>○ Engage community support (WHO, 2001a)</li> <li>○ Train providers (WHO, 2001a)</li> </ul> </li> <li>• Improving the availability and accessibility of health services by offering them at convenient times and locations and ensuring that transport, language and cost barriers are minimised (Haynes et al., 1996; Sbarbaro, 1979)</li> <li>• Reorganising the service to make it more user-friendly and efficient by:             <ul style="list-style-type: none"> <li>○ Streamlining the treatment process (Divertie, 2002)</li> <li>○ Minimising waiting times and shortening intervals between appointments (Sbarbaro, 1979)</li> <li>○ Keeping staff as stable and constant as possible (Vermeire et al., 2001)</li> <li>○ Improving record-keeping systems (Divertie, 2002)</li> </ul> </li> </ul>
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## Addendum C: Clarificative evaluation framework for the study

PATIENT-CENTRED APPROACH	<i>What were current communication practices in facility-based TB treatment?</i>	<i>How were the interventions developed and adapted for this context?</i>	<i>How did health providers and managers perceive and respond to the interventions?</i>	<i>How was the intervention implemented, if at all?</i>	<i>How did patients receive it?</i>	<i>Did the intervention achieve its aims?</i>
<p>Aims for patient:</p> <ul style="list-style-type: none"> <li>• ↑ satisfaction</li> </ul> <p>Assumptions:</p> <ul style="list-style-type: none"> <li>• This may lead to improved health behaviour and adherence</li> <li>• This may lead to improved health</li> </ul> <p>Aims for provider:</p> <ul style="list-style-type: none"> <li>• More holistic understanding of patient</li> <li>• More appropriate health care interventions</li> </ul>	<ul style="list-style-type: none"> <li>• Review of literature on the application of a PCA in TB and in SA</li> <li>• Description of pre- and post-intervention observations in PE &amp; CT</li> <li>• PCA measure applied to pre-intervention consultations</li> </ul>	<ul style="list-style-type: none"> <li>• See <i>intervention component tables</i></li> </ul>	<ul style="list-style-type: none"> <li>• See <i>intervention component tables</i></li> </ul>	<ul style="list-style-type: none"> <li>• See <i>intervention component tables</i></li> </ul>	<ul style="list-style-type: none"> <li>• See <i>intervention component tables</i></li> <li>• Patient consultation satisfaction questionnaire applied post-intervention</li> </ul>	<ul style="list-style-type: none"> <li>• Description of post-intervention observations in CT</li> <li>• PCA measure applied to post-intervention consultations</li> </ul>
<p><b>Assumption:</b> By implementing BMI and other project interventions, patient-centredness is likely to increase</p> <p style="text-align: center;">↓</p>						
BMI TRAINING	<i>What is current communication practice in facility-based TB treatment?</i>	<i>How was BMI developed and adapted for this context?</i>	<i>How did health providers and managers perceive and respond to BMI?</i>	<i>How was BMI implemented, if at all?</i>	<i>How did patients receive BMI?</i>	<i>Did the BMI training achieve its aims?</i>
<p>Aims for provider:</p> <ul style="list-style-type: none"> <li>• ↑ patient-centredness</li> </ul> <p>Aims for patient</p> <ul style="list-style-type: none"> <li>• ↑ involvement</li> </ul> <p>Content:</p> <ul style="list-style-type: none"> <li>• Skills/tools developed with health settings in mind</li> </ul>	<ul style="list-style-type: none"> <li>• Description of pre- and post-intervention observations in PE &amp; CT</li> </ul>	<ul style="list-style-type: none"> <li>• PE training pilot</li> <li>• BMI small group</li> <li>• AFDOT training planning meetings</li> </ul>	<ul style="list-style-type: none"> <li>• Observations of manager buy-in sessions</li> <li>• Observations of clinic buy-in sessions</li> <li>• Observations in training sessions</li> </ul>	<ul style="list-style-type: none"> <li>• Observations in training sessions</li> <li>• Participants' training notes</li> <li>• BMI checklist applied to observation of post-intervention consultations</li> </ul>	<ul style="list-style-type: none"> <li>• Patient consultation satisfaction questionnaire applied post-intervention</li> </ul>	<ul style="list-style-type: none"> <li>• Provider focus groups</li> <li>• Patient focus groups</li> <li>• Observation of post-intervention consultations</li> </ul>

## Addendum D: Sample task given to AFDOT training participants

### AFDOT INTERACTION SKILLS FOR WEEK 2

#### Open-ended questions

What are open-ended questions?

They are questions that do not have a fixed answer (e.g. questions that you can't answer by saying "yes", "no" or "two months") and encourage a person to open up and share their point-of-view.

Some examples of open-ended questions that you could ask:

- How do you feel about the fact that you have TB?
- Is there anyone that you feel you could tell about your TB?
- What things do you think you could do to make sure that you don't get TB again?
- What do you know about the link between TB and HIV?

List some of your own examples here:

- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_

#### Active-listening skills

What are active-listening skills?

They are things that you can say to another person to show that you are interested, listening closely and understand what they are saying. Using active listening skills also helps people to share their point-of-view.

Examples of active listening skills that you could ask:

- So are you saying that ... ?
- Hmm...
- I see...
- So what you are saying to me is that ... ?

List some of your own examples here:

- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_



## Addendum E: Sample communication training session plan

Session 3:	Beginning to talk with our patients about change.
Key concept:	Stages of readiness to change
Key skills:	Assessing readiness
Pre-handouts:	Readiness model; PCA decision balance sheet; evaluation sheet

### 13:30 Feedback on task of the week (activity introduced by LR)

Divide the participants into three groups (one facilitator per group, trying to ensure that no participants from the same clinic are in the same group)

In each smaller group participants are given a picture and asked to tell the rest of their group how this picture might represent how they are feeling today

After everyone has had the opportunity to share how they are feeling, facilitators should briefly ask the group to reflect on the meaning behind the activity (e.g. you never know what you are going to get in a particular day/week)

Ask participants to give their feedback on their task for the week (open-ended questions and active listening)

### 13:50 Readiness to change (SA)

Ask participants to return to their whole group for this activity

Begin a brief whole group discussion

*What is a patient-centred approach? What does it mean to you?*

*How does a PCA differ from your current approaches?*

Explain that they will be asked to do an individual exercise where they will be asked to think about their style of talking to patients and the style that the training is aiming to introduce – a PCA (5 minutes for this activity)

Give each participant a decision balance sheet and explain that they should write down their personal views on the pros and cons of a PCA and of their current style of talking to patients. Encourage participants to write something in each quadrant and explain that their thoughts would be collected but would be anonymous.

Once completed, begin a whole group discussion of the activity

*How do you feel about your current approach to talking with your patients?*

*How do you feel about a more patient-centred approach to your patients?*

*How important is it for you to become more patient-centred?*

*How confident do you feel that you are able to become more patient-centred if you want to?*

*Have you thought about changing your approach?*

*Have you changed your approach already?*

*Have you been able to maintain those changes?*

From the discussion, introduce the concept of readiness to change

Present the readiness to change model

Ask the participants to identify where they are in terms of their readiness to change

Emphasise that this changes all the time and is not a fixed state or trait

Mention that we have mixed feelings about change

Make the link to patients' readiness to change and point out that patients are seldom as ready as we would like them to be

#### 14:15 **Assessing patients' readiness to change (NP)**

Show a series of video clips and ask participants to identify where patients are in terms of their readiness to change and what the health workers asked to find out how ready their patients are

#### 14:40 **Applying skills for assessing readiness (NP, LR, SA)**

Divide into two groups and explain role-play

Find volunteer actors who are playing patients who are coming for their DOT (but are at different stages, like 2-month sputum)

Do three role-plays in each group and prepare actors while role-plays are taking place

Group facilitators encourage participants to get involved and ask questions that help them to assess readiness

Discuss stages and skills after each role-play

De-role at the end

#### 15:10 **Progress evaluation**

#### 15:25 **Task of the week**

Handouts: Task of the week; skill sheet; serenity prayer