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**The interface between biomedical and traditional
health practitioners in STI and HIV/AIDS care**
A study on intersectoral collaboration in Zambia

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ABSTRACT

The aim of this thesis is to explore potential opportunities for and obstacles to collaboration between biomedical and traditional health practitioners (BHPs and THPs) and to test a dialogue–nurturing intervention in order to improve attitudes and increase collaborative activities for STIs and HIV/AIDS care in Zambia. The specific objectives were: to explore the local communities' views on prerequisites (or preconditions) to collaboration between biomedical and traditional health providers with regards to STIs and HIV/AIDS care (I); to explore BHPs' and THPs' experiences of and attitudes toward collaboration and to identify obstacles and potential opportunities for them to collaborate with regard to care for patients with STIs and HIV/AIDS (II); to explore biomedical and traditional health practitioners' perceptions of good STIs and HIV/AIDS care and their opinions on weaknesses in the services they provide to patients with STIs and HIV/AIDS (III); to assess the changes in attitudes to and practices of collaboration among a set of BHPs and THPs following a participatory intervention in the Zambian city of Ndola, focusing on STIs and HIV/AIDS care (IV).

The studies were conducted in Ndola and Kabwe, in Zambia. Both qualitative and quantitative methods were used. The study population consisted of community members, BHPs (nurses, midwives, physicians and laboratory and environmental health technicians) and THPs (herbalists, spiritualists, diviners and traditional birth attendants (TBAs)). Twenty one focus group discussions (I), semi-structured interviews with BHPs (n=152) and THPs (n=144) (II, III) and pre- and post-intervention KAP questionnaires with BHPs (n=19) and THPs (n=28) (IV) were used to collect the data.

The community members underscored both the potential advantages of collaboration and the risks associated with failed collaboration. The prerequisites for collaboration included protection of traditional medicine and compensation of THPs, education of both groups of providers, preservation of some degree of secrecy in traditional medicine and adequate community involvement (I). Thirty-seven BHPs (24%) and 19 THPs (13%) reported past collaboration with the other group. Most BHPs reported that they trained TBAs in conducting safer deliveries, whereas THPs mainly reported having been trained by BHPs on HIV/AIDS matters. Both groups believed that THPs had a role to play in the control of HIV/AIDS, including 126 BHPs (83%) and 136 THPs (97%). The suggested roles were mainly health education (including HIV prevention) and treatment of opportunistic infections and/or sexually transmitted infections. Sixty-one BHPs (40%) and 139 THPs (97%) expressed an interest in working together with the other sector (II). Substantial proportions of providers from both sectors perceived drugs availability (63% of BHPs and 70% of THPs) and welcoming attitude (73% of BHPs and 64% of THPs) as important aspects of good quality care. A majority of BHPs (87%) and THPs (80%) acknowledged deficiencies in their STIs and HIV/AIDS-related services. Both groups regarded training of providers, nutritional support and health education to patients as lacking. None of the THPs alluded to voluntary counselling and testing (VCT) or supportive/home-based care as aspects needing improvement (III). At pre-intervention, BHPs expressed generally positive attitudes about collaboration. But additional improvements were observed afterwards, such as willingness to refer to THPs (68% before and 100% after); more BHPs agreed that THPs could provide counselling to patients with HIV (36% before, 71% after) and that collaboration was easy (36% before, 71% after). THPs were also positive to collaboration even before the intervention. After intervention, fewer said they would never visit a clinic (14% before, 3% after); fewer agreed with the statement that they would be annoyed if a patient visited a clinic before coming to them (21% before, 8% after). THPs self-confidence in their role in HIV prevention increased after the intervention (39% before, 100% after). Cross-referrals and visits increased fairly after the intervention (IV).

Lack of collaboration between BHPs and THPs may result in missed opportunities. Both groups seem willing to collaborate. Interventions enhancing dialogue between the two groups are feasible. A more participatory approach allowing for both groups learning together and from each other seems appropriate. More involvement by other community actors and leadership by district health authorities might be influential. Further research is called for to enhance evidence-based collaboration before scaling-up can be recommended.

Keywords: *traditional medicine, health practitioners, collaboration, multisectoralism, integrative medicine, STI, HIV, AIDS, Zambia.*

LIST OF PUBLICATIONS

- I. **Kaboru BB**, Falkenberg T, Ndulo J, Muchimba M, Solo K, Faxelid E, Bridging Gaps Project's Research Team. Communities' views on prerequisites for collaboration between modern and traditional health sectors in relation to STI/HIV/AIDS care in Zambia. *Health Policy* 2006;78(2-3):330-9.
- II. **Kaboru BB**, Falkenberg T, Ndubani P, Höjer B, Vongo R, Brugha R, Faxelid E. Can biomedical and traditional health care providers work together? *Zambian practitioners' experiences and attitudes towards collaboration in relation to STIs and HIV/AIDS care: a cross-sectional study.* *Human Resources for Health* 2006;17 (4):16
- III. **Kaboru BB**, Muchimba M, Falkenberg T, Höjer B, Faxelid E and Bridging Gaps Research Team. Quality of STIs and HIV/AIDS care as perceived by biomedical and traditional health care providers in Zambia: Are there common grounds for collaboration? 2007, submitted.
- IV. **Kaboru BB**, Ndubani P, Falkenberg T, Pharris A, Muchimba M, Solo K, Höjer B, Faxelid E and the Bridging Gaps Project's Research Team. A participatory dialogue-building pilot intervention involving traditional and biomedical health providers focusing on STIs and HIV/AIDS care in Zambia, 2007, submitted.

The papers will be referred to by their Roman numerals **I–IV**.

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LIST OF ABBREVIATIONS

AIDS	Acquired Immunodeficiency Syndrome
ARV/ART	Antiretroviral/Antiretroviral Treatment
BG	Bridging Gaps Project
BHPs	Biomedical Health (Care) Providers (Practitioners)
CBoH	Central Board of Health
CD4	Cluster of Differentiation (antigenic proteins found chiefly on the surface of leukocytes such as T-cells)
CI	Confidence Interval
CSO	Central Statistical Office
DHMT	District Health Management Team
EC	European Commission
FGDs	Focus Group Discussions
GDP	Gross Domestic Product
HDI	Human Development Index
HIV	Human Immunodeficiency Virus
ICCC	International Chronic Care Conditions framework
IGDs	Interprofessional Interactive Group Discussions
IHCAR	Division of International Health (at Karolinska Institutet)
INESOR	Institute of Economic and Social Research
ISC	Institut Supérieur de Commerce
KAP	Knowledge, Attitudes and Practice
KI	Karolinska Institutet
KIRT	Karolinska Institutet International Research Training
LSHTM	London School of Hygiene and Tropical Medicine
MDGs	Millennium Development Goals
NVFO	Health Care Sciences Postgraduate School
OIs	Opportunistic infections
PGDs	Peer Group Discussions
PIN	Peer Influence Networking (or Peer Influencing Network)
PLWA	People Living with HIV/AIDS

RA	Research Assistants
RCT	Randomised Clinical Trial
SD	Standard Deviation
STI (s)	Sexually Transmitted Infections
TB	Tuberculosis
TBAs	Traditional Birth Attendants
THETA	Traditional and Modern Health Practitioners Together Against AIDS and other diseases (Uganda)
THPAZ	Traditional Health Practitioners' Association of Zambia
THPs (THs)	Traditional Health (Care) Providers (Practitioners)
TIES	Training, Information Exchange and Supervision
TM	Traditional Medicine
UK	United Kingdom
UN	United Nations
UNAIDS	United Nations Joint Programme on HIV/AIDS
UNDP	United Nations Development Programme
USA	United States of America
VCT	Voluntary Counselling and Testing
WHO	World Health Organization

PREFACE

When I graduated in 1993 from the Institut Supérieur de Commerce de Kisangani (ISC-Kisangani), in the Democratic Republic of Congo, my results opened for a career in academia as ‘Chargé de Pratique Professionnelle’ - the lowest category of teaching personnel in the Congolese academic system. I was ready to take on that opportunity, with the aim of struggling for merits and further studies to become a fully-fledged university lecturer. But I quickly was offered a job, to manage a local Non-Governmental Organisation (NGO). I accepted this offer as I believed NGOs were among the most effective of assisting those most in need. But the dreams about university lectureship never faded away.

In 1995 I passed a test by Belgian Université Catholique de Louvain for admission in the Master’s degree course in Economic and Social Policy intended for French speaking NGOs’ officers. Unfortunately, my fundraising did not go that well, so I missed that opportunity too.

As a consequence of the 1998 occupation war, our family became internally displaced persons. Increased insecurity sent us to exile, until we ended up in Sweden. My NGO-work did not leave my perspectives unchanged. I increasingly became more sensitive to issues of poverty, disease, inequities and related international policies. This led me to the Department of Peace and Development Research at Göteborg University where I obtained a degree in international development cooperation. This department is prominent for research and teaching in development studies. What fascinated me the most from this department was the perspective on politics of alternative development and on situating postcolonial theory in development practice.

It was with this intellectual baggage that I, in spring 2003, applied to the Health Care Sciences Postgraduate School at Karolinska Institutet that was then recruiting PhD students for a number of projects. I specifically applied for the Bridging Gaps project, which is the basis for my thesis. I was among the privileged applicants to be admitted to join Karolinska Institutet.

It has been exciting, but also challenging in many ways, to do research on this subject: as a social scientist enrolled for a PhD at a basically medical university, as an individual born to Christian (Pentecostal) parents and grandparents and therefore hypothetically opposed to traditional medicine, and as an African who has experienced dual use of biomedical and traditional therapies, both as a child and as a university graduate. This thesis is evidence that nothing is impossible!

1 INTRODUCTION

1.1 The global HIV pandemic – local control efforts

It is now over a quarter century since the human immunodeficiency virus (HIV), the infectious agent responsible for acquired immunodeficiency syndrome (AIDS), was first reported. During this period, the disease has developed and the perception of it has changed from a disease basically affecting marginal groups in high-income countries to one that threatens the survival of millions of people in the world's poorest countries, thereby undermining development prospects (UN, 2001). Increasing consensus on challenges imposed on development by the pandemic have led international actors, under the initiative of the United Nations Secretary General, to set up in 2001 the Global Fund to fight HIV/AIDS, Tuberculosis and Malaria. Another emerging discourse on HIV/AIDS depicts the pandemic as a security issue, a threat to global security (Prins, 2004).

Sub-Saharan Africa, representing about ten percent of the global population, is the most badly stricken region, where almost two-thirds of people living with AIDS (PLWA) reside. In 2005 alone, an estimated three million became infected with HIV and about two million died from AIDS in this region (UNAIDS, 2006a).

The struggle to control the spread of HIV and to provide care to affected persons and communities necessitates the mobilisation of all potential resources. Given the complexities involved in HIV prevention and care in terms of diverse intervening factors at individual, at micro- and macro-levels, HIV/AIDS control strategies call for multisectoral approaches (Mayaud and McCormick, 2001; WHO, 2003a; Pawinski and Lalloo, 2006). HIV has turned into a key constraint to poverty reduction in highly burdened countries (Piot, 2006). There is indeed agreement about the need of identifying HIV control strategies which are adapted to local contexts, taking into consideration the social, cultural and environmental realities of affected societies (Dionisio et al., 2004; Trickett, 2002). Such contextual strategies need to be innovative and carefully researched and tested. It is against this background that traditional medicine (TM) and its practitioners have been called for during the last two decades to

contribute strengthening the resources in the struggle against the HIV pandemic (UNAIDS, 2002; UNAIDS, 2006c).

1.2 Traditional health practice

1.2.1 Definition and history

The World Health Organization (WHO) defines TM as “the sum total of the knowledge, skills, and practices based on the theories, beliefs, and experiences indigenous to different cultures, whether explicable or not, used in the maintenance of health as well as in the prevention, diagnosis, improvement or treatment of physical and mental illness (Wilder, 2001; WHO, 2003b).

This definition is comprehensive in that it allows various types of practices to be labelled TM. What is important for a practice, a knowledge-base or a skill to qualify as TM is indeed its finality with regards to health (prevention, diagnosis or treatment of ailment) together with the embeddedness of the underlying belief and theory in a defined cultural group.

In traditional medical systems, an understanding of the underlying cause of illness or disease is usually fundamental to identifying the appropriate prevention and treatment strategies, including behaviour related ones. Two main approaches to causation are often referred to: the personalistic and the naturalistic approaches. In naturalistic systems, disease is believed to result from natural forces or conditions or from imbalances in the basic body elements. A personalistic explanation sees disease as being caused by an active and purposeful agent (human, nonhuman or supernatural) and presents the sick as a victim (Green, 1999). African ethnomedicine has often and exaggeratedly been associated with the latter type of explanation and, in particular, to beliefs in witchcraft or sorcery. It is argued that the evils of TM and its practitioners during colonial times was anecdotal and non-scientific, and that most criticism resulted either from genuine misunderstanding of local cultures and languages or deliberate distortions created to enhance colonial mandate (MacCormack, 1986). The colonial policymakers reinforced these associations between traditional medical practices and the negative aspects of sorcery and witchcraft in order to justify the ban of TM (Waite, 1992).

Anthropologists argue that pre-colonial African public health control was achieved by an integration of medical, social and cultural practices legitimised by and exercised under the lead of the territorial political authority (Lwanda, 2005). Prevention and treatment aspects of infectious diseases –not associated with witchcraft– exist and have always existed in TM (Green, 1999; Waite, 1992).

It is important to recognise that the pertinence of TM lies in the fact that TM and allied cultural practices have always included important factors supporting various socially cohesive constructs which also inform people’s attitudes to health and illness, including in relation to HIV/AIDS (Lwanda, 2005; Liddell et al., 2005). The identification of areas where TM and its practitioners might contribute to alleviation of the burden of prevention and care of people with HIV/AIDS is therefore an issue of invaluable importance.

1.2.2 Traditional medicine (TM) as part of health system

According to WHO, health systems are comprised of all the organisations, institutions and resources that produce health actions; a health action being understood as any effort whose primary purpose is to improve health, whether hospital service, primary health care, public health services or intersectoral initiatives (WHO, 2000; Lindstrand et al., 2006). In an attempt to classify what he called sectors of health care, Arthur Kleinman distinguished what he named “popular sector” and “folk sector” from the non-traditional category that he referred to as “professional sector” (Kleinman, 1980; Helman, 2000).

The “professional sector” refers to Western (modern, scientific) medicine that is practised in clinics and hospitals by a range of professionals including physicians, nurses, midwives and other auxiliaries. The “popular sector” refers to the care that takes place in families and constitutes the real site of primary care in any society. The carers in this sector are laypersons, relatives and friends. Their credentials are based on their own experience rather than on their education, social status or occult powers. The “folk sector” is made up of practitioners specialised in certain forms of healing. In general, the training of folk (traditional) healers occurs by inheritance, revelation, apprenticeship to another healer, and sometimes by acquiring personal interest and skills. These practitioners are either pure technicians such as herbalists, birth-attendants, and bonesetters, or spiritually-oriented healers such as spiritualists and diviners. (Helman, 2000).

Herbalists use phytotherapy, mineral or animal products to treat mainly somatic aspects of health problems. Traditional birth-attendants (TBAs), also called traditional midwives, are generally older women specialised in assisting mothers during childbirth, whereas bonesetters are practitioners having skills in restoring bone functions after injury, accident or disease. Spiritualists and diviners are often seen as similar, yet they are different. Whereas the spiritualists seek to assist the suffering persons using religious or faith-based procedures (for instance through prayers or recommending the consumption of “blessed” drinks or food), diviners are mainly interested in revealing the causes of disease or the future development of an event, by consulting intangible forces or higher powers. In other words, diviners are mostly interested in diagnosis and prognosis of a disease (Bannerman et al., 1983).

1.2.3 Use of traditional medicine by patients with sexually transmitted infections and HIV/AIDS

Studies from the USA show that the majority of persons with HIV/AIDS use some type of alternative or complementary therapy concurrently with their biomedical treatment (Kirksey et al., 2002; Hsiao et al., 2003). A study in Thailand showed that more than 90 percent of the interviewed patients with HIV used some form of TM (Wiwanitkit, 2003). The use of traditional medicine (alternative and complementary medicine) can be a reason why patients with HIV decide not to take antiretroviral (ARV) medication (Kremer et al., 2006).

No clear data exist from Africa relating to the proportion of people with HIV/AIDS who use TM. According to WHO estimations, however, up to 80 percent of the population in sub-Saharan Africa resort to TM for their primary health care needs (WHO, 2002a). Specifically for care of sexually transmitted infections (STIs) and HIV/AIDS, available estimates show a range between 60 to 80 percent of the population suffering from such complications as resorting to traditional therapies (Dartnall et al., 1997; King, 1999; UNAIDS, 2000). Other figures from WHO report that in South Africa, 75 percent of people living with HIV/AIDS use traditional, alternative or complementary therapies (WHO, 2003b).

1.3 Health systems achievements

In order to control complex diseases, such as AIDS, strong health systems are required. When the HIV/AIDS epidemic was declared a problem in sub-Saharan Africa, most countries were experiencing severe economic hardships and in declining public spending for health and social services. Poor public sector accountability was another issue that affected the health sector during the years when HIV emerged (Buve et al., 2003). Consequently, in most affected countries, health services have shown obvious limitations in responding to the HIV/AIDS in terms of provision of prevention, treatment and care to HIV-affected patients and families. Also, the epidemic emerged when these countries were still facing an important burden of common infectious diseases. Thus, the countries came to face a double burden of emerging HIV epidemic along with other uncontrolled “traditional” communicable diseases, such as tuberculosis and STIs (Buve et al., 2003).

Beyond this initial systemic disadvantage, a number of factors show that the prevailing efforts to curb the pandemic should be rethought if the control is to be achieved. Firstly, despite recent reports from UNAIDS which states that HIV incidence is stabilising in some settings, such as Uganda and Zimbabwe, it is increasingly agreed upon by most HIV/AIDS experts that prevention strategies, as they have been conceived and implemented, are not yielding the expected results. Programmes are not reaching those who mostly need them. Only one out five are reached by current prevention efforts (UNAIDS, 2004).

Secondly, in addition to disease prevention, issues of treatment and comprehensive care for HIV-infected persons are crucial. Laboratory medical research has made incredible advances in helping us to understand the nature of the HIV agent and its development. Tremendous progress has been realised by pharmacological research with the development of anti-retroviral drugs that significantly prolong life of those infected with HIV (Halloran, 2006). Within the framework of the WHO’s “3 by 5” strategy (putting 3 million persons under ARV treatment by the end of 2005), access to antiretroviral therapy (ART) improved from two percent of those in need in 2003 to seventeen percent at the end of 2005 (from 100000 to 810000) (WHO/UNAIDS, 2006). In June 2006, slightly less than one-quarter (23%) of the estimated 4.6 million people in need of antiretroviral therapy in this region were receiving it (UNAIDS/WHO, 2006). However, challenges related to the increased need for prevention

and, consequently, the increased commitment to simultaneously strengthen prevention and care efforts, has been recognised and strongly called for (Kirmayer, 2004; Bodeker et al., 2006). A warning has been made that unless prevention is strengthened, increased access to ARV treatment through the “3 by 5” strategy, and subsequent efforts, may result in people considering HIV as any other clinically manageable disease and they would therefore tend to have risky sexual behaviours, which would contribute to further HIV transmission (Behjati, 2006).

Thirdly, shortage of human resources for health seems to be the major weakness of health systems in many sub-Saharan countries (Narasimhan et al., 2004). Sub-Saharan Africa has only one-tenth the number of nurses and physicians relative to its population as compared to Europe (Chen et al., 2004). Many factors explain the current insufficiency of health workforce in these countries, including migration to high-income countries, deaths resulting from HIV/AIDS and low capacity of domestic educational infrastructures. International migration of health workers is becoming a well-documented phenomenon in international development literature (Martínez and Martineau, 2002). Furthermore, HIV/AIDS is annually depleting the limited human resources being produced. In 1997, Malawi lost 44 nurses as a result of AIDS – 44 percent of the annual number of nurses trained. In 1999, Zambia lost 185 nurses due to AIDS, which was 38 percent of the number of nurses trained that year (Hongoro and McPake, 2004). As a consequence of these multiple factors, it has been argued that about one million health workers are needed in the public health sector in this region (Hongoro and McPake, 2004), if health-related internationally set goals such as the Millennium Development Goals (MDGs) are to be achieved. Moreover, the existing low numbers of health workers are exacerbated by problems of low morale and skills and imbalances in geographical distribution (Narasimhan et al., 2004; Fritzen, 2007).

1.4 Models of collaboration in health care

1.4.1 Traditional medicine and the public health sector

Pluralism in health care is a global reality. Traditional medicine (and other non-Western therapies used as alternative to or in complement with biomedical therapies) is said to be increasingly popular globally, due to many different factors, including accessibility, a holistic approach to healing, personal attention, cultural sensitivity, lower cost, and fewer negative

side-effects (Mann et al., 2004). The way the public health policy is built does not always reflect this pluralism; neither does the public policy always support it.

WHO distinguishes three types of health systems with respect to recognition of TM: integrative, inclusive and tolerant health systems. In an integrative system, TM is incorporated into all areas of health care, including health service and medical education. In an inclusive health system, TM is recognised but not fully integrated in health care provision or education. In a tolerant health system, health care relies entirely on biomedicine and TM is not officially recognised in health care provision (Kirmayer, 2004).

Health service organisation in most of sub-Saharan countries has tolerant structures with regard to TM (Kirmayer, 2004). While integrative health care systems have emerged in countries in Asia, marginalisation of indigenous healing knowledge is the reality in African settings (Stephens et al., 2006). In the latter, interactions between biomedical and traditional health sectors are essentially indirect, through patients' intermediation, as a result of their "therapeutic itineraries" (Samuelsen, 2004).

1.4.2 Models and concepts in collaborative health care

Collaboration between different categories of health care providers is challenging in virtually all settings. Collucia and Maguire, cited by Henneman et al. (1995), define collaboration in health care as a "joint communicating and decision-making process with the expressed goal of satisfying the patient's wellness and illness needs while respecting the unique qualities and abilities of each professional" (Henneman et al., 1995).

Certain concepts that often are associated with collaboration need to be reviewed in order to facilitate understanding of each and to be able to distinguish easily between different models of partnerships. An *integrative* model refers to blending the two systems, through allowing providers of both systems to practice together irrespective of philosophical and epistemological particularities of the involved parties (Kaptchuk and Miller, 2005). Integrative or integrated medicine is essentially based on biomedical practitioners deciding to become more informed about, to be trained in, or to associate with non-biomedical practice or practitioners (Mann et al., 2004). It might also take the form of alternative practitioners moving in and practicing in a basically biomedical setting (Shuval and Mizrachi, 2004). Integrative efforts are often

interdisciplinary, i.e. whereby a team of several professions is involved in integrating and translating knowledge, expertise, themes and schemes between the involved professions. It often also implies sharing of common space.

Assimilation involves selection of a TM practice, testing it and incorporating it into a biomedical setting as it is practiced, depriving it from its philosophical and other cultural aspects. Assimilation may be a result of power, financial and political dimensions (Bell et al., 2002). However, *true integration* is different from assimilation. True integration takes into consideration the non-biomedical practice's philosophical values of holism, client-centeredness and empowerment.

The *pluralist* model, on the other hand, fosters cooperation and mutual acceptance between biomedicine and TM, while recognising fundamental epistemological and methodological differences between them. *Multidisciplinary* teamwork predominates in such situations where cooperating professionals remain independent, but are coordinated and structured in a given fashion (D'Amour et al., 2005). For this to happen, both groups of partners need to recognise that each system can offer clinically valuable treatment options, and the patients' informed choices are promoted and their preferences and values respected (Kaptchuk and Miller, 2005). In both true integrative and pluralist models, *interdependence* between the partners has to be clearly asserted (Henneman et al., 1995).

The pluralist model is appealing, as it opens for recognition of both independence and complementarity between the two systems. My approach to collaboration between THPs and BHPs is informed by a multidisciplinary perspective. However, as both groups of practitioners are regarded as belonging, at least theoretically, to the same health system (all those producing health actions), I prefer using the qualifier *intersectoral* rather than *multisectoral*. In this thesis, the use of the qualifier *intersectoral* refers to the key role of interdependence between providers from the two sectors. Interprofessional or cross-professional might be used interchangeably with *intersectoral*.

1.4.3 Traditional medicine and evidence-based medicine

TM is often questioned for not being '*evidence-based*', meaning that for example *efficacy* of most of its practices lacks support derived from evaluations relying on randomised clinical trials

(RCTs). Proponents of TM posit that the biomedical reductionist use of RCT for assessing specific effects of a particular component of an intervention is inappropriate in most TM therapies. Instead, *whole systems* theory approach is called for in which the wellness and healing of the whole person (bio-psycho-socio-spiritual dimensions), and where the whole equals more than the sum of its parts. Treatment outcomes in this perspective are resultant of all factors involved in the whole process in a way that the different components can not be easily separated (Bell et al., 2002; Fonnebo et al., 2007; Walach et al., 2006).

In this perspective, evaluation of traditional therapies proposes a strategy that starts from a recognition of the importance of the context, the philosophical paradigm underlying the practice, the reasons for utilization of the therapies, the practitioners' characters, etc., rather than starting from the biochemical screening, as in evaluation in conventional biomedical research (Fonnebo et al., 2007). Such a strategy acknowledges explicitly and values multidisciplinary, collaborative and pluralist generation of evidence as an important contribution to evidence-based health sector reform (Clarke, 1999; Cardini et al., 2006; Simone, 2006).

2 CONCEPTUAL FRAMEWORK

2.1 Health workforce in a community development perspective

The premise of this thesis recognises that HIV/AIDS is more than merely a medical issue. It is a social, political and economic problem. It is acknowledged that typical clinical procedures and approaches in themselves are not enough if prevention, care and support strategies have to be effective in the wider community (Kalipeni et al., 2005). I conceive of BHPs and THPs as two groups belonging to the country's health workforce, the latter seen as "all people engaged in actions whose primary intent is to enhance health" (WHO, 2006a). In line with the approach termed "geometry of care", each actor (organisation or individual) participating in care provision is considered as possessing particular expertise, and these expertises "need to be connected, via multi-level linkages, to enable each organisation and individual to function as a distinct node in a larger web that facilitates the circulation of knowledge and the provision of coherent HIV treatment and prevention services" (Indyk and Rier, 2006a; Indyk and Rier, 2006b).

Efforts to address the HIV epidemic should be an integral part of the overall community's work to tackle its daily problems. Thus, rather than being an end in itself, collaboration between THPs and BHPs is conceived of in this thesis as one among many community resources that need to be pulled together in the effort to control HIV/AIDS. Local communities can indeed be regarded as systems that are comprised of individuals and subsystems whose interrelationships are critical for social change in the community (Thompson and Kinne, 1999). The nature of the harmony existing between different subsystems of the local polity is likely to affect the outcome of the efforts aimed at bringing change in the community.

A public health approach with a community development perspective suggests that intersectoral collaboration might be capable of expanding the reach of interventions, making them population-wide, while also offering opportunities for the community to tackle other closely related development issues (Shoultz and Hatcher, 1997; Kloos et al., 2003; De Cock et al., 2002). More importantly, this approach values community participation in all efforts aimed at combating disease and social suffering (Naur, 2001; Trickett, 2002; WHO, 2006b).

2.2 Critical theory and action research

Medical pluralism is a complex issue in today's health policy environment. For Waltraud Ernest (2002), it is important to differentiate carefully between the desirability of medical pluralism and the extent to which it has been realised in a globalised medical world. He posits that analyses focusing on pluralism therefore still need to be situated squarely within the wider social and political context, being also sensitive to issues of power and medical hegemony (Ernest, 2002). People's reliance on one or the other of the two sectors is a result of different factors (perceptions/beliefs, availability, affordability, etc) while the organisation of health policy remains mainly a domain of political economy, where power and other forces (local and global agents) play key roles (Walt, 2004). The opportunities offered by TM and its practitioners are said to be overlooked (WHO, 2006b).

Critical theory encompasses many perspectives, but they all share a wish to bring about social change and to question dominant power structures (Andersen and Kaspersen, 2000). It is essentially and explicitly a change-oriented form of inquiry, based on awareness and criticism of power and injustice in the studied society (Patton, 2002) Critical analysis is concerned with bringing to the debate relevant issues that have been left out. The task of critical theory is "to define and assess the level of variation that exists beyond what is empirically given. The critical analysis of what exists is based on the assumption that existence does not exhaust the possibilities of existence, and that there are, therefore, alternatives capable of overcoming what is criticisable in what exists" (de Sousa Santos, 1999). Critical theory as an approach is both dialogic and dialectical (Denzin and Lincoln, 2000).

A number of epistemological and methodological principles often used in critical change-oriented inquiry are, in my opinion, highly relevant and suitable to the assessment of the interface between BHPs and THPs:

- The focus is on problem solving in order to inform issues of practical needs of people
- Power relations are recognised and knowledge is created throughout the research process (in which practice is questioned/examined) involving both powerful and powerless actors concerned by the problem at hand

- Through access to knowledge and participation in its production, use and dissemination, the actors are given an opportunity to affect boundaries and the conceptualisation of the “possible”
- Change at both local and global actors’ level is important, for large-scale and meaningful change to occur
- The decision to implement the decision for change is in the hands of the stakeholders.

These dimensions are characteristic of change-oriented research (Bowling, 2002; Reason and Bradbury, 2001; Streubert Speziale and Rinaldi Carpenter, 2003). In this type of investigation, when the data being analysed are generated by practitioners in the execution of ordinary practical work, and the findings are later used to change the way practice is carried out, the research process is called action research (Reason and Bradbury, 2001). This thesis does not have an action research component as such, but the findings would be used to inform an action research project (for example, by following up THP and BHP collaboration through tracking their actions, the referrals, etc.).

3 AIM AND OBJECTIVES

3.1 Aim

The main aim of this thesis is to explore potential opportunities for and obstacles to collaboration between biomedical and traditional health practitioners and to test a dialogue-nurturing intervention in order to improve attitudes and increase collaborative activities pertinent for STIs and HIV/AIDS care in Zambia.

3.2 Specific objectives

- To explore the local communities' views on prerequisites (or preconditions) to collaboration between biomedical and traditional health providers with regard to STIs and HIV/AIDS care **(I)**

- To explore biomedical and traditional health practitioners' experiences of and attitudes toward collaboration and to identify obstacles and potential opportunities for them to collaborate with regard to care for patients with STIs and HIV/AIDS **(II)**

- To explore biomedical and traditional health practitioners' perceptions of good STIs and HIV/AIDS care and their opinions on weaknesses in the services they provide to patients with STIs and HIV/AIDS **(III)**

- To assess the changes in attitudes to and practices of collaboration among a set of biomedical and traditional health practitioners following a participatory intervention in the Zambian city of Ndola, focusing on STIs and HIV/AIDS care **(IV)**

4 BACKGROUND ON ZAMBIA

4.1 General country profile

Zambia is a landlocked country in southern Africa that shares borders with eight other countries (see Figure 1). After gaining independence from Britain in 1964, Zambia has remained relatively politically stable. Efforts toward democratisation have been successful in Zambia since the 1990s. Despite accusations and contestations by politicians after each electoral period the country has not had serious political crises, compared to most of its neighbours. The official language is English, although it is only spoken by a small minority. Over 30 languages are spoken throughout the country with the principal languages being Bemba, Nyanja, Lozi, Luvale, Lunda and Tonga.

Zambia is one of the poorest countries in the world, ranked 165th (out of 177 countries) according to United Nations Development Programme's (UNDP) Human Development Index (HDI). The proportion of the total population who are undernourished is 47 percent (UNDP, 2006). More than 70 percent of the Zambian population live under the poverty line (National HIV/AIDS/STI/TB Council [Zambia], 2003). Table 1 summarises the major health related indicators in Zambia.



Figure 1: Map of Zambia

Table 1: Health related indicators in Zambia

General indicators	
Population, total (millions)	11,7
Population growth (annual %)	1,8
Surface area (sq. km) (thousands)	752,6
Life expectancy at birth (years) M/F	40/40
Mortality rate, infant (per 1,000 live births) M/F	190/173
Literacy rate, youth females (% of females aged 15-24 years)	66,2
Population in urban areas (%)	36.5
Gross Domestic Product (GDP) per capita (International \$, 2004)	1013
HIV related indicators	
HIV prevalence among adults aged 15-49 years (%)	17
Number of Voluntary Counselling and Testing (VCT) sites/Number of people tested at all sites	420/Not available
Estimated number of people living with HIV	1000000**
Estimated number of people needing ARV treatment	200000**
Number of people under ARV treatment (November 2005)	43964**
Human resources for health-indicators	
Physicians (in public sector in 2003*)	1264 (756*)
Nurses (in public sector in 2003*)	19014 (7 251*)
Midwives	2 996
Laboratory technicians	1415 (292*)
Other health workers	3330
Community health workers	Not available
Traditional health practitioners	Not available

Source: (WHO, 2004); (Kombe et al., 2005)*; (WHO, 2005)**

Zambia is heavily affected by the HIV epidemic. The first case of AIDS in Zambia was reported in 1984. HIV/AIDS is depicted as the major challenge to development prospects in Zambia, as the epidemic is reversing all the development gains made during more than three decades from the period of independence (National HIV/AIDS/STI/TB Council [Zambia], 2003). Also, the burden of HIV/AIDS on Zambian health system is huge. HIV/AIDS-related morbidity and mortality result in an estimated 50 percent of general hospital admissions and more than 70 percent of specialised medical hospital admissions in Zambia (WHO, 2005). HIV/AIDS prevalence is not decreasing in Zambia (UNAIDS, 2006a), despite some declines reported in HIV prevalence among the youth (15-19 years old) in some areas (Sandoy et al., 2006). There is indication of stabilisation attributed, however, to behavioural change among the youth (National HIV/AIDS/STI/TB Council [Zambia], 2003).

One of the key epidemiological features of HIV in Zambia is the urban–rural gap. Data from the United Nations Joint Programme on AIDS (UNAIDS) sentinel surveillance sites for 2004 indicated the overall prevalence rate among pregnant women aged 15–49 years to be 18.7 percent. However, in urban sites the rate was 25 percent compared to 11.8 percent in rural sites (UNAIDS, 2006b).

The HIV problem is partly related to the epidemiology of the other STIs and is also associated to that of tuberculosis. The common STIs in Zambia include syphilis, gonorrhoea, chancroid, trichomoniasis and herpes genitalis. The prevention and care of STIs have implications on HIV incidence. In fact, more than half of the people with a history of STIs become infected with HIV, and ten percent of all outpatient attendances in Zambia suffer from STIs (National HIV/AIDS/STI/TB Council [Zambia], 2003). Both common STIs and HIV/AIDS constitute major public health problems in Zambia.

4.2 Human resources for health

The Zambian public health system is in crisis as far as human resources are concerned. As in other similar countries, the Zambian health staffs are increasingly affected by attritions due to international migration. Available data indicate that physicians have the highest attrition rate (9.8% per year). The physician–to–population ratio has decreased from 1:10000 in 1975 to 1:19 000 in 2003. The attrition rate for nurses is 5.3 percent per year (Kombe et al., 2005).

Beside the public sector there is the private sector, including the private-for-profit, the private not-for-profit and the traditional sectors. TM is widely used in Zambia. There is, however, no clear figures concerning the number of traditional health practitioners countrywide. Their number is anecdotally estimated between 35000 and 50000 in Zambia (Ndulo et al., 2001), compared to 20000 physicians and nurses together. Since the first national plan to fight STIs, HIV/AIDS and TB in Zambia was launched, national policymakers have continuously depicted THPs as useful actors in the control of these diseases (Ministry of Health [Zambia], 2005)

Two organisations are known to represent Zambian THPs: the Traditional Health Practitioners Association of Zambia (THPAZ) and the Zambian Association of Ngangas. THPAZ is especially

very active and well accepted in the highest level health policy spheres. For instance, its president used to be part of the Central Board of Health (CBoH) and of a technical committee within the National HIV/AIDS/STI/TB Council of Zambia. THPAZ advocates for THPs to be seen as one group rather than as a diverse group of uncontrollable traditional practitioners. The organisation is against all type of quackery, malpractice and unfounded claims. It has its own code of conduct and a corps of police who intervene in case any practitioner is accused of unprofessional behaviour (THPAZ, 2001).

5 MATERIAL AND METHODS

5.1 Study settings

The studies in this thesis were conducted in two Zambian cities, Ndola (population 270,000) and Kabwe (population 175,000), in the Copperbelt and Central provinces of Zambia, respectively (CSO et al., 2003). Ndola has a central Hospital (second level referral) whilst Kabwe has a general hospital (third level referral). With an HIV prevalence of 26.6 percent and 23.8 percent, respectively, Ndola and Kabwe are among the two most affected cities in Zambia behind Livingstone where the prevalence rate is 30.9 percent (National HIV/AIDS/STI/TB Council [Zambia], 2004). Before Ndola and Kabwe were retained as study areas, a careful mapping of potential districts was done. Ndola and Kabwe were selected because of their cultural (linguistic) and socio-economic similarities, and particularly the commonalities in relation to HIV epidemiological patterns.

The study sites within these cities were chosen in order to focus the attention on a manageable geographic area with a reasonable number of clinics. Clinics constituted the departing points in the sampling process. From clinics, catchments areas were defined, and THPs operating within these areas identified. The criteria for the selection of the clinics were the availability of Voluntary Counselling and Testing (VCT) services or proximity to a centre with these services, as well as availability of THPs. The southern zone of Ndola and the northern zone of Kabwe were selected. Table 2 provides information about the clinics involved in the studies, the number of BHPs working in each clinic, as well as the sizes of their outpatient attendance (in March 2003) and the population in the catchments area.

Table 2: Number of BHPs, outpatient (outpts) attendance in Mars 2003 and population size in the catchments areas for the health facilities included in the study

Ndola				Kabwe			
Clinics	Nr BHPs	Outpts	Pop. size	Clinics	Nr BHPs	Outpts.	Pop. size
New Masala	25	9418	25964	Bwacha	18	1000	NA
Lubuto	25	7278	23609	Mahatma Ghandi	24	4500	15000
Mushili	8	2000	25055	Pollen	17	920	15000
Kabushi	6	1500	9297	Natuseko	10	1816	9359
Kaloko	4	1161	7744	Nakoli	9	1197	NA
Ndeke	5	1506	20370	Ngungu	17	1316	NA
Masala Main	4	1055	NA	-	-	-	-
Total	77	-	-		95	-	-

NA: Not available

Source: (INESOR, 2003).

5.2 The Bridging Gaps (BG) project

This thesis draws its data from a broader project entitled “Bridging Gaps between traditional and modern health care sectors -Testing a model to improve quality of STI/HIV/AIDS care in sub-Saharan Africa”, a 40 month-long project, supported by the European Commission (EC) and involving four universities and two Non-Governmental Organisations. The project was implemented in Zambia and Uganda, in two districts in each country, one intervention district and one control district.

The BG project derived itself from the findings that THPs play a significant role in health care provision related to STIs and HIV/AIDS. A common conclusion from these studies pointed out the need for improvement of collaboration between THPs and BHPs (Faxelid, 1997; Ndubani, 2002; Ndulo, 1999). The objective of the BG project was to foster dialogue, mutual respect, understanding and collaboration between traditional and modern health care providers in order to improve quality of care and uptake of STI and HIV/AIDS services in Zambia and Uganda. The BG project assumed that collaboration between these two sectors was desirable. The project wanted thus to increase *collaboration*, to improve *quality* of care and to increase *uptake* of STIs and HIV/AIDS services.

The project comprised three phases: baseline, intervention and follow-up.

The baseline phase comprised a number of research activities aimed at describing the general situation in relation to prevailing intersectoral linkages, the willingness of providers to work together, the views of community members on possibilities for collaboration and general policy environment relative to intersectoral collaboration and STIs and HIV/AIDS prevention and care. These research activities used focus group discussions with community members, survey interviews with traditional and biomedical health practitioners, and exit-interviews with patients at biomedical health facilities and traditional practitioners healing facilities. Documentary data was also collected from the clinics concerning the size of their outpatient clientele and the size of the population in catchments' areas. The results from the baseline data were reported back to the THPs, BHPs and policymakers both at district and national levels. Three of the studies (**I, II, III**) in this thesis build on baseline data.

The intervention phase involved a part of the project planned for testing an intervention to improve attitudes to and practices of collaboration between THPs and BHPs, as well as improvements in quality of care and increases in uptake of services. To do this, the two cities were randomly allocated to control and intervention conditions. Ndola served as the intervention district and Kabwe as the control district. The intervention included several intersectoral meetings and training opportunities for providers, and was aimed at fostering dialogue, mutual understanding, and to some extent, to encourage cross-referrals and visits between the two sectors.

As for the content, the intervention consisted of four main types of activities: peer group discussions (PGDs), interprofessional interactive group discussions (IGDs), and training or information exchange sessions (TIES), as well as peer influencing networking (PIN). The PGDs comprised of meetings within each professional group aimed at fostering team spirit and consensus building among participants from each category before meeting their counterparts of the other profession. The IGDs were inter-professional group discussion sessions where issues of interdependence, complexities of HIV/AIDS and STI care, conflicting issues and mechanisms for collaboration, as well as training needs were discussed (Hadiyono et al., 1996). In order to meet the training needs identified by each of the professional groups, training sessions were organised and facilitators/trainers from outside the groups were brought in to broaden participants' knowledge on particular issues or to share with them about specific

experiences. Depending on the topic, trainers were drawn either from the research team, the district health authority or from relevant community-based organisations. The concept of PIN related to the practice, by each individual participant, of disseminating the acquired knowledge and approaches to non-participants at their respective workplaces or professional communities (Mano-Negrin and Mittman, 2001).

The intervention lasted 12 months (from August 2004 to August 2005, See Figure 2 for the intervention plan). All the meetings (PGDs and IGDs) were systematically recorded and minutes/notes carefully kept. The expected outcomes were evaluated in terms of change in attitudes towards each other, in terms of quality of care provided to patients, and with regard to the reported practice of collaborative work (referrals, visits etc). The assessment of possible changes resulting from the intervention was done by analysing responses on attitudes to and practices of collaboration among participants in the intervention (study IV in this thesis).

The follow-up phase consisted of another round of data collection through surveys interviews with BHPs and THPs who had not participated in the intervention, as well as with patients having STIs and HIV/AIDS seeking care at biomedical or traditional health practitioners' facilities. The project also used the simulated clients' methodology to assess the quality of care in both health sectors, in both intervention and control districts. The analysis of policy development in relation to collaboration between THPs and BHPs was conducted, and major activities in HIV prevention and care were monitored. Dissemination of the findings from the intervention, from the follow-up and policy analysis, was carried out before the project ended. This was done in workshops in Ndola, Kabwe and Lusaka and gathered THPs, BHPs, and health authorities at district and national levels.

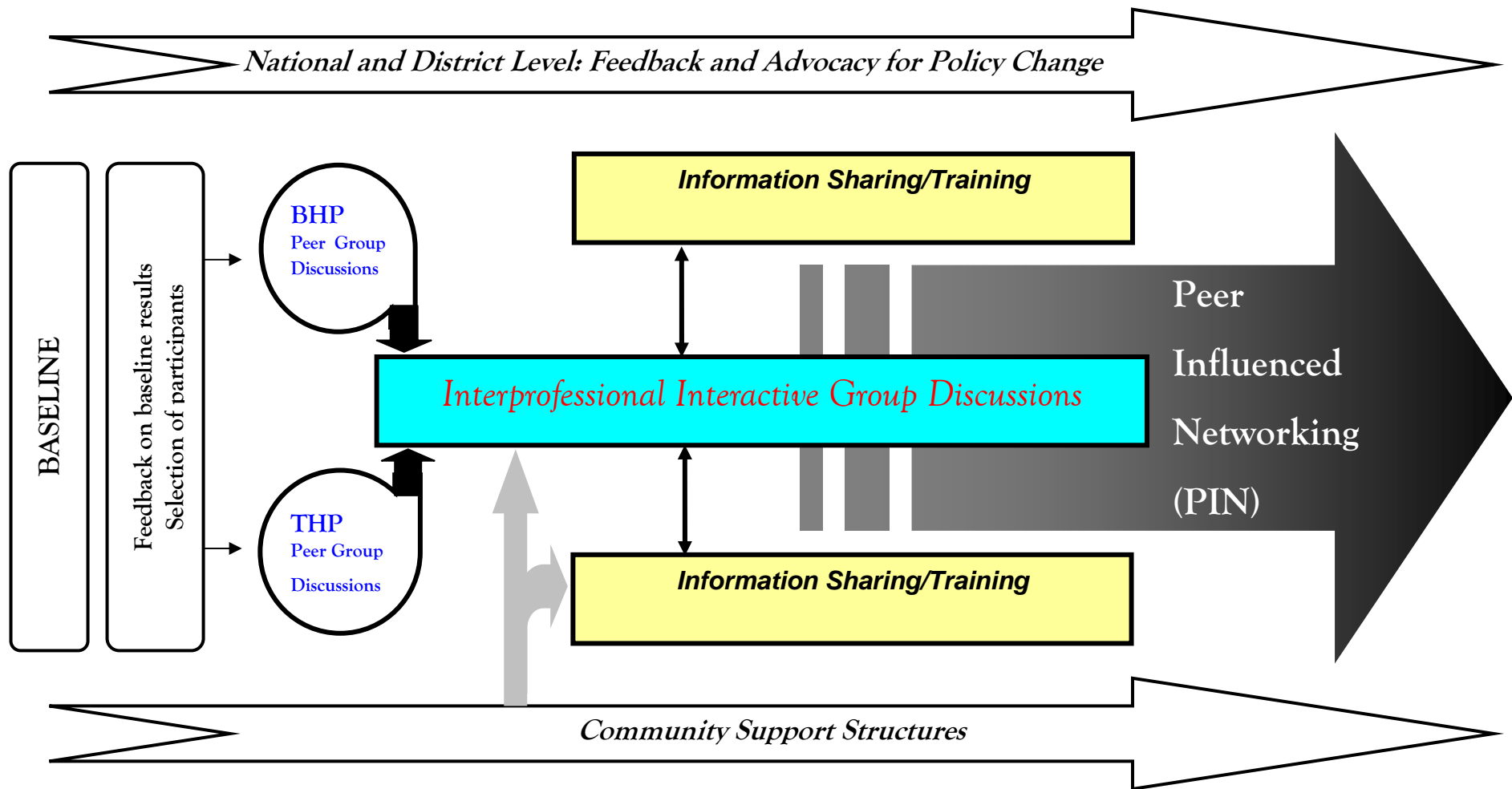


Figure 2: The intervention plan

5.3 Research methods

In the present thesis, I have used both qualitative and quantitative research approaches. Focus groups discussions (FGDs) were conducted with community members (I), semi-structured interviews were carried out with health care providers (II, III) and one pre- and post-intervention knowledge, attitudes and practices (KAP) study was conducted with health care providers (IV).

5.3.1 Focus group discussions (I)

Qualitative methods are increasingly being used in health care research. They provide in-depth understanding of phenomena or dimensions that numeric values in quantitative research would otherwise not be able to capture (Malterud, 2001b). Qualitative methods put the researcher in a new and close relationship with informants and by opening up dialogues on basic questions of health and health care, these methods can extend public health beyond an exclusively biomedical model (Abrahamson and Abrahamson, 1999). In FGDs, respondents meet in small groups (between 6 to 12 participants) to discuss issues of interest to the investigator (Bender and Ewbank, 1994). FGDs are not aimed at changing opinions or testing “correct” knowledge (Bowling, 2002), but rather at exploring beliefs, perceptions, values and practices regarding health, prevention and treatment of illness and the utilisation of traditional and other health care (Abrahamson and Abrahamson, 1999).

In study I, FGDs were used to explore the views of community members and community leaders on what they regard as preconditions for successful collaboration between biomedical and traditional health care providers in the context of care as related to STIs and HIV/AIDS.

5.3.2 Semi-structured interviews (II, III)

Descriptive surveys are used in health systems research to measure phenomena, such as events, behaviour, perceptions and attitudes among the population of interest. Structured and semi-structured questionnaires are used in these types of surveys (Bowling, 2002). Whereas structured questionnaires involve the use fixed and standardised or closed-ended questions with pre-coded response choices, semi-structured questionnaires include both fixed and open-ended questions to allow the respondent to formulate responses in their own words or the interviewer to probe further (Bowling, 2002).

In study **II**, semi-structured interviews were used to explore and describe THPs' and BHPs' attitudes to, experience of collaboration and willingness to collaborate with each other. In study **III**, the same method was used to explore the two groups of providers' perceptions of good care and their opinions on the quality of the services they offered to patients with STIs and HIV/AIDS. This method has been said to be useful in preliminary surveys where the purpose is to obtain information to be used in planning a subsequent study, and in intensive studies on perceptions, attitudes, motivations and affective reactions (Abrahamson and Abrahamson, 1999).

5.3.3 Pre- and post-intervention KAP questionnaire (IV)

Knowledge, attitudes and practice (KAP) instruments are used in intervention studies when the issues under investigation are related to changes in knowledge, attitudes and practices subsequent to a given intervention. A comparison of scores or frequencies before and after the intervention is thus performed to examine possible changes that might be attributable to the intervention.

A pre- and post-intervention KAP tool was used in study **IV** to investigate any changes in attitudes and practices of collaboration among the BHPs and THPs who participated in a 12-month-long intervention intended to nurture dialogue and collaboration with each other.

5.4 Design, study population and data collection methods

The studies included in the present thesis used various designs and methods, as described in Table 3 below:

Table 3: Summary of study designs, participants and methods

Study	Topic	Study population (and sample size)	Design and Method
I	Communities' views on prerequisites for between collaboration modern and traditional health sectors in relation to STI/HIV/AIDS care in Zambia	Community members and leaders: 21 focus group discussions (FGDs)	Qualitative explorative design; FGDs
II	Can biomedical and traditional health sectors work together? Zambian practitioners' experiences and attitudes to collaboration in relation to care of STIs and HIV/AIDS	Biomedical health providers (BHPs): n=152 Traditional health providers (THPs): n=144	Cross-sectional design; semi-structured interviews
III	Quality of STIs and HIV/AIDS care as perceived by biomedical and traditional health care providers in Zambia: Are there common grounds for collaboration?	Biomedical health providers (BHPs): n=152 Traditional health providers (THPs): n=144	Cross-sectional design; semi-structured interviews
IV	A participatory dialogue-building pilot intervention involving traditional and biomedical health providers focusing on STIs and HIV/AIDS care in Zambia	Biomedical health providers (BHPs): n=19 Traditional health providers (THPs): n=28	Pre- and post-intervention design; knowledge, attitude and practice (KAP) questionnaires

5.4.1 Paper I

Design: This was an explorative qualitative study with community members and leaders.

Participants and sampling strategy: The participants were men and women of different age groups as well as community leaders. Each group was homogeneous, in terms of sex and age (men aged 15–19, women aged 15–19, men 20–45, women 20–45 and community leaders). The sampling was purposive. Research assistants (RAs) and local members of the research team visited the study areas under the guidance of township chairmen; they asked individuals about their willingness to participate in group discussions about health problems in the community – mainly STIs and HIV/AIDS, and the use of modern and traditional health services and the possibilities for collaboration among these providers.

Data collection: FGDs were used to collect the data. The discussions were held in Bemba. Moderators were Zambian members of the Bridging Gaps project for most FGDs, but some

FGDs were moderated by research assistants. Research assistants were note-takers. The discussions were tape-recorded and transcribed verbatim and later translated in English by locally recruited and trained research assistants.

5.4.2 Paper II and III

Design: These were cross-sectional studies.

Participants and sampling procedure: The participants were BHPs and THPs. As for BHPs, all those who worked in the six health centres in northern Kabwe and the seven health centres in southern Ndola were included. The BHPs were of different categories, including registered and enrolled nurses/midwives, nurse assistants, clinical officers, medical officers, laboratory technicians and environmental health specialists.

The district branches of the THPAZ provided lists of all THPs working within the residential areas surrounding the selected health centres, and from which the centres received their clientele. In order to complement these lists and to include non-THPAZ members, a systematic ambulatory mapping was conducted. This means that the RAs walked through these areas and asked residents about names and addresses of THPs they knew in the neighbourhood. An updated list including names and residential addresses of the THPs was thus established, irrespective of their membership in THPAZ. The inclusion criterion was to select THPs who, according to their own statements, attended to patients with STIs and HIV/AIDS. The participating THPs included herbalists, diviners, spiritualists and traditional birth attendants (TBAs).

Data collection: Semi-structured interviews were used. They were administered by RAs. The BHPs were interviewed individually, in a private area, at their respective health centres. Those on leave or off-duty were followed up and interviewed at home. The interviews with BHPs were conducted in English. Out of 172 BHPs eligible, 152 (80 in Kabwe and 72 in Ndola) were interviewed, while 20 (12%) could not be contacted.

All identified THPs consented to participate in the study. The interviews were administered by the RAs and took place at the THPs workplace, which in most cases were their homes. The total number of THPs interviewed was 144 (81 in Kabwe and 63 in Ndola). The THPs were interviewed in Bemba, the local language in both Ndola and Kabwe.

5.4.3 Paper IV

Design: This was a pre- and post-intervention study.

Participants and sampling strategy: The respondents were BHPs and THPs who participated in the intervention activities. A purposive sampling strategy was used to recruit the participants. The participants were suggested by THPAZ (for THPs) and by the District Health Management Team (DHMT) for the BHPs, following the selection criteria enumerated in Table 4 below. Out of a total of 101 THPs operating in the study area, 28 were recruited to participate in the intervention. The ambition was to recruit three health workers per health centre. Out of 77 BHPs working in the concerned health facilities, 19 were enrolled. Some health centres couldn't release three workers due to heavy workload. Out of the 28 THPs and 19 BHPs who were recruited and who responded to the questions at baseline, respectively 26 THPs and 14 BHPs completed the follow-up assessment questionnaire, resulting in dropout rates of 7 percent and 26 percent, respectively, among THPs and BHPs.

Table 4: Selection criteria for participation in the intervention

Selection criteria for THPs	Selection criteria for BHPs
<ul style="list-style-type: none">• To be working within the study area (Southern Zone of Ndola)• To be a THP (spiritualist, herbalist, TBA and/or diviner)• To be willing to participate and should be recognised by the community• To have a reasonable client load of at least 5 patients per week• Literacy should not be a hinder, i.e. even those who cannot read or write could participate• To be based in Ndola and plan to live there for the next year• Equal number of men and women was striven for• THPAZ membership was not necessary.	<ul style="list-style-type: none">• To be working in the selected health centres in the study area (the Southern Zone of Ndola)• To be a nurse, midwife, clinical officer, medical officer or other staff member with direct patient contact• Based in Ndola and not planning to move during the next year.

Data collection: A pre- and post-intervention KAP questionnaire was used to collect data on knowledge of HIV, attitudes to and practice of collaboration among the participants in the intervention. This instrument consisted of a dozen items in the form of statements and response alternatives with four ordinal levels: Disagree completely (1), Disagree (2), Agree (3) and Agree completely (4). The instrument was developed by the BG project's research team.

The questionnaire was administered to THPs by RAs while it was self-administered among BHPs. This was the case both before and after the intervention.

The content of the intervention: The following topics were discussed in the respective meetings. The language mostly used during discussions was Bemba, which is the main language spoken in Ndola.

Peer Group Discussions (PGDs):

- Meetings with separate groups of biomedical workers (18) and traditional healers (30)
- Topics centred on the benefits of and barriers to collaboration
- The issues of the need, principles and benefits of collaboration

Interprofessional interactive group discussions (IGDs):

- Strengths and weaknesses of each sector were discussed, opportunities for collaboration explored and agreed
- Best practices for providing quality STI/HIV/AIDS prevention and care, including examples of what constituted humane, as well as technical quality of care based on insights and practices of both sectors
- The way towards development of guidelines for better collaboration

Training, information exchange and support (TIES):

During the IGDs, health care providers identified areas in which they needed training, and topics for the training were selected based on the training needs identified. The topics included: STIs; HIV/AIDS; opportunistic infections and treatment; culture, beliefs, stigma around STI/HIV/AIDS; positive living, care and support for people living with HIV/AIDS; counselling by BHPs and THPs; referrals from THPs to BHPs, and vice versa; collaboration: advantages to patients and health providers; history taking, danger signs and symptoms (for THPs); and record keeping (for THPs).

Peer-influenced networking (PIN):

Each sector was given responsibility for owning and incorporating lessons learned through on-going dissemination and promotion of collaborative strategies among peers.

5.5 Data analysis

5.5.1 Paper I

The qualitative data collected from FGDs were analysed using a qualitative content analysis technique (Graneheim and Lundman, 2004). Repetitive reading of the FGDs transcripts was performed, in line with Maxwell's "contextualising strategies", aimed at providing an understanding of the data in context (Maxwell, 1996), so as to enable an analysis based on an 'emic approach' (Patton, 2002). Later on, all information related to participants' views of collaboration between the traditional and biomedical health care sectors were selected and constituted the meaning units (Graneheim and Lundman, 2004). We used the manifest approach to content analysis, rather than latent or more interpretive approaches. From the meaning units, codes were identified and grouped into sub-categories. The classification of sub-categories allowed the emergence of two main categories. The initial text was continuously referred to in order not to lose the original background or context from which the meanings were subtracted.

5.5.2 Paper II and III

The data were entered in EpiData version 3.0 (EpiData Association) and analysed using STATA 8 (STATA Corporation). For the closed-ended questions, frequencies and proportions were straightforwardly calculated. For elaboration of coding scheme to be used in the post-coding of open-ended responses, either an inductive or a deductive strategy can be utilised. In inductive coding, the coding scheme is established based on a preliminary analysis of a representative sample of the material, without any reference to an existing theory or framework. In deductive coding, researchers use theory to construct response categories (Frankfort-Nachmias and Nachmias, 1996).

In study **II**, an inductive approach was used for the post-coding of the open-ended questions. About 25 percent of the material was read by four researchers and coded together, and the emerging responses determined the coding frame on which the remaining material was coded. In study **III**, on the other hand, the post-coding strategy was deductive. A coding frame inspired from the framework assessment of quality of care, as first developed by Donabedian (Donabedian, 1980; Donabedian, 1985), was used. The framework is based on three dimensions of quality of care, including structure, process and outcome. Structure concerns

the organisation framework of the activities, the equipment, staffing, building etc whereas process pertains to the services themselves and the way they are delivered (waiting times, patients-provider interaction etc.). Outcome refers to the impact of the service on patients as well as patient evaluations of the care they obtained (Bowling, 2002).

The descriptive and explorative character of these papers motivated a predominant use of descriptive statistics (frequencies and proportions). In both study **II** and **III**, the Pearson chi-square test (χ^2) was applied to test the statistical difference between proportions (95% two-tailed significance). Moreover, odds ratios (OR) were used in study **III** to examine the likelihood for the two groups of providers to mention or recognise different aspects of quality of care as compared to each other. Fisher's exact test was used when at least one of the frequencies being compared was low (<3). All the analyses, in both studies, were done per group of providers rather than in terms of specific categories of THPs or of BHPs.

5.5.3 Paper IV

Data were entered in EpiData version 3.0 (EpiData Association) and then analysed using STATA 8 (STATA Corporation). Frequencies and proportions for the respective response items were calculated. For discrete variables (such as number of reported referrals or visits), the median was used as the measure of central tendency together with the range, given that the wide variation made the mean values less useful. The Mann Whitney test was used to compare distributions of responses before and after the intervention. Finally, the Pearson chi-square test (χ^2) was applied to check for differences between proportions of other categorical (non-ordinal) variables. All the tests were based on a 95% two-tailed level of significance.

5.6 Use of research assistants

In community field research, it is not uncommon for professional researchers to rely more or less on local resources in performing some tasks, ranging from selection of respondents to mobilisation of significant community partners. In many cases, local personnel can be used as interviewers and even co-authors.

However, the use of non-professional researchers is a challenging task and a subject of controversy, opposing the proponents of the radical positivist standpoints and the defenders of the participatory research approaches (Vlaenderen, 2004). In collaborative research, there is a

need for contextualising the research process, taking into consideration the nature of joint activities between the intervening researchers and the participants, without undermining scientific rigour (Lax and Galvin, 2002; Fisher and Ball, 2005). In this type of research, the spirit of collaboration is concretised by the amount of energy devoted to collaborative relationship building, the degree to which the community is allowed to influence the selection of problems and research strategies (Trickett, 2002; Fisher and Ball, 2005). More explicitly, “the process of data collection, analysis and the development of an intervention strategy are integrated and shared by all stakeholders” (Vlaenderen, 2004), of whom some might not be professional researchers.

Research assistants were instrumental all along the research process which generated the data in this thesis. Three types of RAs were used: THPs recruited to interview other THPs, BHPs to interview BHPs, and young boys and girls aged between 19 and 25 years old and who had completed high school (so called school leavers), were recruited to interview community members and to assist in the organisation of the FGDs.

In relation to the FGDs from which the data for study **I** originated, the RAs participated in the recruitment of participants, in the conduct of FGDs as note-takers and moderators, in the translation of the transcripts from Bemba to English, and in the analysis. One RA participated as co-author of the published article. In study **II** and **III**, the RAs participated in mapping of the health facilities in the study areas, in the recruitment of respondents (particularly the ambulatory exercise aimed at complementing the initial lists of THPs elaborated by THPAZ), as interviewers and in the translation of open-ended responses from Bemba to English.

Some of the key challenges in using local resources in research are related to limited understanding of RAs about the research process and to their belonging to a socio-economic class different from that of the professional researchers, implying different power positions (Streubert Speziale and Rinaldi Carpenter, 2003). Training sessions were organised to prepare the recruited RAs to understand the basic demands of a rigorous research process. They were introduced to issues such as the objectives of FGDs, the role of the moderator, the risks of bias in sampling, the ideal interview situations and attitudes when interviewing etc. During these training sessions, which took two to three days prior to interview rounds, we aimed at getting the RAs familiar with the interview schedule and the FGD guide. Among the exercises was the

pre-testing of the questionnaires, whereby the RAs performed multiple role-plays as interviewers and as respondents. Study **I** made use of ten 'school leavers' whereas study **II** and **III** relied on ten THPs and ten BHPs. In study **IV**, five THPs were employed as RAs, but no BHP was employed as RA since the questionnaires were self-administered by BHPs.

5.7 Ethical clearance

Study **I**, **II**, **III** and **IV** were approved by the Ethics committee at the University of Zambia (Ref 003-12-02). In Stockholm, ethical clearance was obtained from the local ethics committee at Karolinska Institutet for study **I**, **II**, and **III** (Dnr 03-179); and from the regional ethics committee in Stockholm for study **IV** (Dnr 04-524/3).

6 RESULTS

6.1 Respondents' socio-demographic backgrounds

The respondents in study **I** were community members: women and men aged 15–19 years, women and men aged 20–45 years and community leaders (including township chiefs, school directors, church leaders, etc).

In study **II** and **III**, the respondents were BHPs and THPs. The mean age of the BHPs interviewed was 38.7 years (SD 8.7, range 19–56). The large majority of BHPs were women (87%, 132); and 70 percent (106) were enrolled nurses/midwives. For other details on professional categories, see Table 5.

Table 5: Professional categories of 152 BHPs interviewed in study **I** and **II**

Professional categories	Study areas	
	<i>Kabwe</i>	<i>Ndola</i>
Registered Nurses/Midwives	5 (6)	17 (24)
Enrolled Nurses/Midwives	59 (74)	47 (65)
Nurse assistants	–	–
Clinical Officers	5 (6)	2 (3)
Medical Officers	2 (3)	–
Laboratory technicians	5 (6)	3 (4)
Environmental health technicians	1 (1)	–
Other auxiliaries	3 (4)	3 (4)
Subtotal	80 (100)	72 (100)
Total	152	

The mean age of the THPs was 48.8 years (SD 12.5, range 26–90). The majority were women (52%, 75). However, the interview schedule for THPs did not include variables on their area of specialisation.

The background information on the BHPs and THPs who participated in study **IV** are summarised in Table 6.

Table 6: Socio–demographics of the participants in the intervention in study IV

Socio–demographics	Values & frequencies (%)	
	THPs (N=28)	BHPs (N=19)
Age		
Mean age	49 years	42 years
Age range	34 – 80 year	23 – 54 years
Sex		
Men	15 (54)	4 (21)
Women*	13 (46)	15 (79)
Language literacy		
Speak/write English	20 (71)	19 (100)
Read/write local language	20 (71)	19 (100)
Categories of THPs		
Herbalists	10 (36)	–
Spiritualists	16 (57)	–
Diviners	2 (7)	–
TBAs*	6 (21)	–
Categories of BHPs		
Registered nurses/midwives	–	2 (11)
Enrolled nurses/midwives	–	13 (68)
Clinical officer	–	1 (5)
Other	–	3 (16)

* Six of the female THPs described themselves as TBAs, beyond being herbalists, spiritualists or diviners. Therefore the sum of percentages is >100.

6.2 Thematic summary of findings

An overview of the research designs and type of respondents has been presented in Table 3. For detailed presentation of the findings, the reader is referred to the attached individual papers.

6.2.1 Differences and complementarities (I, II, III)

Fears over incompatibility of BHPs' and THPs' approaches to health care were emphasised by community members:

'They can't work together because they each have their own set of beliefs' (Community leader) (I). Different approaches among providers emerged in relation to their perceptions of what good quality of care was. Compared to THPs, BHPs were more likely to give prominence to scientific

rational approaches (proper examination, provider's technical ability, biomedical explanation of the disease...) as important aspect of quality of care (III).

The very complex complications associated with HIV were central in community members' recognition of the need of complementarity between BHPs and THPs. The chronic character of AIDS and the role of THPs were highlighted in the community members' discussions.

'They [healers] attend to many of these cases. For instance, HIV related ones such as TB, STD. A person who is HIV positive suffers from a number of ailments at different times. If one wakes up coughing, s/he knows they [healers] heal that, tomorrow s/he wakes up with sores all over the body they [healers] heal. So these traditional healers are really helping in trying to ease this burden' (Man 20–45 years old) (I).

Large majorities of providers from both sides, i.e. 132 BHPs (86%) and 116 THPs (80%), reported weaknesses in the service they provide to patients with STIs and HIV/AIDS (III). Furthermore, both groups of providers acknowledged that THPs had a role to play in this respect, including 126 BHPs (83%) and 136 (97%) THPs (II).

6.2.2 Potential areas of and interest in collaboration (I, II, III, IV)

Prevention was cited as a prime area for collaboration, both by community members and by providers:

'Yes, because I can give the example of this new disease...In my opinion, they should work together so the disease does not become more widespread – otherwise it finishes people' (Woman 20-45 years old) (I).

Three quarters of responses from BHPs (75%) and one-third (30%) of responses from THPs mentioned health education as a potential area for collaboration (II).

Treatment of opportunistic diseases and STIs was also an area where THPs and BHPs believed that THPs had most to add in the collaborative endeavour. More than half of the responses from THPs (52%) and about a quarter (24%) of those from BHPs mentioned treatment of opportunistic infections and STIs as an area for possible collaboration (II). It was also found that BHPs both before and after the intervention agreed that TM was useful for patients with some STIs and HIV/AIDS - related conditions (94% before the intervention and 100% after) (IV).

Counselling was another area where THPs' contribution would be beneficial. Prior to the intervention, 36 percent of the BHPs believed that THPs could provide good counselling to HIV positive patients, as compared to 71 percent after the intervention. Self-confidence in their potential role in providing counselling for patients with HIV was expressed by more THPs after the intervention as compared to before (39% before and 100% after) (IV).

Aspects of poor quality of care that needed to be strengthened were identified both at structural and process levels of health care provision. Significantly fewer BHPs than THPs (18% and 53%, respectively) cited facilities, equipment or supplies as an insufficient aspect of provided service. Conversely, more BHPs than THPs (30% vs. 10%) described drugs' availability as being poor. Nearly equal proportions of both groups of providers (16% of BHPs and 14% of THPs) deemed training of health care providers to be in need of improvement. Under the process dimension, several aspects of care activities (including food supplements, health education and nursing/palliative care) were considered in need of improvement by both groups of professionals. Very few providers in both groups believed that their services in terms of assistance to AIDS affected children needed improvements (III).

As far as interest in collaboration is concerned, 40 percent of BHPs and nearly all (97%) of THPs respectively expressed their interest in working more closely with each other (II). Before the intervention, 36 percent of the BHPs had the opinion that it was easy for BHPs and THPs to work together compared to 71 percent after the intervention (IV).

6.2.3 Missed opportunities (II, III, IV)

It was found that only 37 (24%) of BHPs and 19 (13%) THPs reported of some type of collaboration with the other sector. Moreover, the reported interactions were predominantly characterised by the BHPs training THPs; 69 percent of responses from BHPs reported that BHPs trained THPs on delivery issues, whereas 23 percent of responses from THPs mentioned training by BHPs on HIV/AIDS matters (II). Voluntary Counselling and Testing (VCT), one of the most vital areas of HIV care was not even mentioned by THPs (III).

Attitudes on possibilities for learning from each other were generally positive: 117 BHPs (77%) and 140 THPs (97%) believed that BHPs could learn from THPs. Likewise, 147 BHPs (97%) and 129 THPs (90%) believed THPs could learn from BHPs (II).

Irrespective of the intervention, the providers' belief in the possibility of learning from each other was high. Virtually all BHPs and THPs who participated in the intervention thought they could learn from the other partners, both before and after the intervention (IV).

According to community members, learning from each other was not only expected to affect the attitudes providers had towards each other and knowledge about specific issues. Learning from each other was also believed to be susceptible to allowing providers to emulate each other in care provision, such as with regards to patient-provider interaction.

'From what we have heard or seen traditional healers are kind, compassionate to patients. So, modern doctors can also learn from healers how to be kind to patients. We want them to give us the same type of care we receive from healers when they attend to us. We want the modern doctors to emulate them. Modern health workers should have good hearts' (Man 20–45 years old) (I).

6.2.4 Obstacles and prerequisites to collaboration

Obstacles and prerequisites can be categorised as systemic, organisational and interactional. In the results of this thesis, the systemic issues were related to the need for protection of traditional knowledge from medical espionage, for compensation of THPs for their knowledge and for respect of certain secrecy of TM (I). Lack of rules or collaborative guidelines was also seen as a key impediment to collaboration: 23 percent of BHPs cited constraining rules as reasons for them not to refer patients to THPs, and 38 percent of THPs cited similar constraints (II).

The organisational components concerned promotion of good practice, formal literacy and qualification in TM among THPs, as in the following statements:

'If they are to begin working together, the most important thing is for healers too, to undergo training in traditional medicine. Let them go through training on how they are to use the medicines properly/correctly. As a result of this, many problems/difficulties would be reduced' (Woman 20–49 years old) (I).

Exaggerated self-confidence by THPs (failure to acknowledge their own limitations) was also seen as a problem:

'The traditional healers need to drop their attitude of always giving patients confidence that they can heal even if they can't treat the ailment' (Man 20–45 years old) (I).

An indication of this self-confidence was identified in the finding that more than one-quarter of THPs (26%) who did not report referrals of patients to BHPs said they did not refer because they believed they were able to treat patients themselves (II).

The interactional (interpersonal) obstacles that were mentioned pertained to persistent antagonism and lack of trust by BHPs in THPs:

'If a healer took some herbal medicines that is effective in treating the STIs and showed the hospital staff so that they too can start using it to treat patients, the hospital staff would not accept' (Man 15–19 years old) (I).

Giving reasons for not referring to the opposite sector, about 40 percent of the BHPs related it to lack of trust or belief in THPs; similarly 26 percent of THPs' responses complained of being disliked and not accepted by BHPs (II). Biomedical health practitioners' lack of trust in THPs was reflected in difficulties regarding attitudinal change. High numbers of THPs agreed that "most BHPs look down on THPs", both before the intervention (74%) and after (68%), and the proportion of BHPs believing that THPs often cheat patients increased from 36 percent before the intervention to 42 percent after the intervention (IV).

6.2.5 Meetings: educational approach, attitudes and practices (I, II, IV)

The community members put forward the issue of learning or education of both BHPs and THPs as one of the key steps for setting up positive collaboration.

'What I would say about healers and doctors working together is, it would be all right provided both are educated on how to work with each other' (Community leader) (I).

Asked about how to start collaborating with each other, the providers gave similar responses, although in different order of importance. Most responses from BHPs stressed the need of meetings (workshops, cross-visits) as a starting step in building partnership, whereas concrete collaborative practice in terms of cross-referrals were mentioned by THPs as a way of launching collaborative work (II).

The intervention proved somewhat effective in enhancing the belief among BHPs that it is acceptable for a BHP to refer patients to THPs (68% before the intervention and 100% after).

Attitudinal change was observed among THPs in relation to the statement regarding THPs believing that BHPs were often corrupt. Before the intervention, 40 percent of the THPs agreed with this statement, as compared to 26 percent after. Moreover, reported number of referrals of patients to each other and mutual visits among providers indicated slow increases although not significant after the intervention (IV).

6.2.6 Community – a key stakeholder (I, III)

Two different dimensions of community participation were referred to: community information (the imperative for involved parties to inform the community) and subsequently community's feedback to providers on the observations or appreciations regarding collaboration, including possibility of financial participation to sustain collaborative efforts (I). For most services implying an outreach dimension and interaction between health care providers and the community –such as supportive home-based care, nutritional support, community health education– both BHPs and THPs regarded these services as inefficient and in need of improvements (III).

7 DISCUSSION

The present thesis explores the potential and the obstacles to collaboration between traditional and biomedical health care providers. This subject is both complex and controversial. The debate around collaboration has been present in international health literature since the late 1970s and linked to implementation of the “Health for All by the year 2000” strategy (Hyma and Ramesh, 1994; Bannerman et al., 1983). It became revitalised in the 1990s, as part of the efforts to identify strategies to control the HIV/AIDS epidemic.

7.1 Methodological considerations

7.1.1 *Validity and reliability aspects*

The choice of design and data collection methods and of analysis strategies has a bearing on the validity and reliability of a study. The researchers’ pre-understanding is another important factor to consider when assessing validity of research findings, especially in qualitative research (Malterud, 2001a). In quantitative research validity refers to whether the results are sound, convincing and well grounded; and reliability is associated with the methods used to measure research variables, in terms of accuracy and consistency (Polit and Beck, 2004). In qualitative research, the concept of trustworthiness is often referred to in assessing a study’s quality, including its credibility, transferability, confirmability and dependability. A number of techniques are recommended to guarantee these study quality aspects, including triangulation, peer debriefing, member check and researcher’s reflexivity (Graneheim and Lundman, 2004; Polit and Beck, 2004).

Several procedures were used to safeguard trustworthiness of the findings in the studies included in this thesis. As to enhance credibility, investigator triangulation (the use of two or more researchers to analyse and interpret the data) was relied on in all the studies. The advantages have been that through this collaborative effort, risks of biased interpretation were reduced and the different disciplines, skills and expertises (included those of THPs) were included in the analysis and discussion of the data (Polit and Beck, 2004). Peer debriefing have also been used at various occasions, whereby the first author had to present preliminary findings to larger groups of researchers involved in the Bridging Gaps project on the one hand,

and to broader audiences of researchers at the partnering academic institution, the Institute of Economic and Social Research (INESOR) at the University of Zambia, on the other hand.

As to member check –whereby the researcher provides feedback to study participants in order to provide them with emerging data and interpretations and listening to their reactions– a variant of member check technique that was used consisted of presentations of findings to constituencies of THPs and BHPs (as well as local and national policymakers) and engaging a discussion around the meaning and relevance of the findings. This feedback was provided during national workshops while the project was on-going and during dissemination meetings in the study sites (control and intervention sites), as well as in the capital city at the end of the project. Such sessions have enhanced credibility and confirmability of the findings.

Concerning transferability, it is important to underscore that our findings are essentially applicable to the two cities where the research took place. It is, however, highly likely that many features related to collaborative atmosphere in Ndola and Kabwe might be found in other Zambian cities. I am aware of the fact that the situation in rural areas might be more different. Indeed, in smaller social settings where people are more likely to know each other better than in cities, collaborative work might face different challenges and build on other social structures than in cities.

I share the epistemological viewpoint according to which a researcher is integral part of his research process. This reflexivity puts the demand on the researcher to recognise that the personal–self is not that easily separated from the researcher–self (Creswell, 2003). Reflexivity reminds the researcher to be “attentive to and conscious of the cultural, political, social, linguistic and ideological origins of one’s own perspectives and voice, as well as the perspectives and voices of those one interviews and those to whom one reports” (Patton, 2002). In this respect, trustworthiness can be secured by the researcher’s openness about his or her values, discussing them with colleagues.

Reflexivity is not as easy to live up to as it might sound. In this thesis, my strategy has been to provide a full description of my ‘self’ and most importantly of my conceptual framework, which has been guiding my work in different studies. To put it differently, it is not the ‘I’ – defined by my age, my ethnic background, etc –that directs my argumentation, but the

perspective adopted in the research process. Therefore, the arguments in this thesis are not depending primarily on my personal experience. Furthermore, this thesis is not an advocacy for the inclusion of THPs in public health systems. My strategy to rule out possible author-related bias has been to make sure (among other things via researchers' triangulation) that all issues discussed are substantiated by the available data and by the available literature. Whenever possible, I refer to the orientations emanating from international normative and technical bodies, such as WHO and UNAIDS.

7.1.2 Sampling and use of research assistants (II & III)

As far as sampling and data collection are concerned, the important methodological challenges in this thesis regard lack of sampling frame for THPs and the partial reliance on THPs and BHPs as RAs. In study I, purposive sampling might have resulted in selecting only community members who are supportive or not radically opposed to collaboration. But the fact that even very opposed opinions were expressed in the discussion indicated that radical opponents were part of the sample. The data confirmed the variety of respondents. In both study II and III, the list of THPs obtained from the THPAZ were complemented by the RAs in a systematic community-based and census-like identification of potential respondents in order to come up with an as inclusive sample as possible, and thus minimise selection bias. However, the only selection criterion in these two studies was self-reported attendance to patients with STIs and HIV/AIDS by THPs. This might have been insufficient as this criterion couldn't be verified objectively. Some THPs might have been excluded as they may have unknowingly attended to patients with these conditions, just as some might have thought they had treated patients with STIs and HIV/AIDS (and were included in these studies) although the treated conditions were not STIs or HIV/AIDS-related. Therefore, we might have missed certain potential respondents - or included irrelevant ones.

The reliance on THPs as RAs should be seen from the perspective adopted in this thesis, a perspective recognising all health care practitioners as professionals despite differences in social status, educational background or titles. In collaborative and community oriented research, use of non-researchers in data collection, analysis and dissemination is commonly admitted and encouraged (Vlaenderen, 2004). The key issue has been in relation to THPs' low literacy levels. This has demanded strong supervision efforts, patience and repetitions of instructions to make

sure all the THPs employed as RAs understand the procedures at the same level as the non-THP RAs.

On the other hand, the advantages of using THPs as RAs are numerous. In terms of access, it was deemed that THPs had better facility to consulting and interviewing other THPs than non-THPs, due to many stereotypes and fear of ('harmful') powers of TM practitioners. Another advantage was related to language. Interviewing in local language and translating the interviews done with THPs from the local language into English could only be done most reliably by another THP cognisant of the professional jargon. Utilising BHPs as RAs to interview other BHPs and 'school leavers' during the organisation of FGDs with community members (I) was another similar strategy of facilitating access to and increasing responsiveness by interviewees. In community research, the issue of differentials in status between the interviewer and the interviewee is essential to consider. Mitchell, cited by Green (1999), found that African respondents who were of lower status than the interviewers tended to avoid responding to the interview questions (Green, 1999).

7.1.3 Data analysis (II, III & IV)

The first data analysis limitations are related to our choice of performing quantitative analyses at group level without considering the sub-categories within the groups of practitioners (II, III and IV). For instance, in study II, the experience of previous collaboration was appreciated in terms of the proportions of THPs or BHPs who reported having had some type of collaboration, rather than in details in terms of proportions by type of BHP or THP (how many herbalist, TBAs or registered nurses or assistant nurses). I recognise that this use of univariate analysis per group of providers rather than per categories within groups deprived us from understanding differences within groups. However, this choice was in line with our overall perspective in this thesis, which is primarily exploratory, rather than of analytical nature (Abrahamson and Abrahamson, 1999). The rationale for using this exploratory approach is that, at the present level of interaction between the two groups, the fundamental problem is the extent to which they are likely or not to accept, to dialogue and communicate with each other as groups, rather the details in terms of which particular category or which age group would be more or less willing to collaborate with the other group of professionals.

Another data analysis issue concerned the post-coding of open-ended questions (II, III). The virtue of open-ended questions is that they do not force the respondent to adapt to preconceived answers. The responses are rather spontaneous, and expressed in the respondents' own language; and the interviewer has an opportunity to probe in order to clear up possible misunderstandings. Among the disadvantages of this type of question are the demands for consistency and objectivity in the post-coding operations. The interpretation of the responses is indeed a difficult task (Abrahamson and Abrahamson, 1999)

In study II and III, investigator triangulation was used to post-code the open-ended questions. In study II, about one-quarter of the questionnaires were read by four researchers and the most recurrent answers were noted to constitute the initial coding frame. The remaining questions were post-coded by two researchers, of whom one was familiar with the local culture and language. In study III, the coding frame was developed by two researchers and the coding done by them together throughout.

7.1.4 Sampling, data analysis and dropouts (IV)

In study IV, which was a pre- and post-intervention study, specific methodological limitations were encountered with regard to sampling, attritions and data analysis strategy. Purposive sampling might have introduced selection bias by recruiting practitioners who were already the most supportive to collaboration or, considering internal politics, the most obedient and thus least critical to their leadership. Alternatives to purposive sampling would have been random sampling or self-selection.

Random sampling was, however, impractical in the formal district health system because of issues of planning of use of human resources. In fact, participation in the intervention implied 21 to 27 working days (one month) of absence from work (three days for PGDs, twelve days for IGDs, 6 days for TIES, plus cross-visits hours), which is enormous in a constrained setting, such as that found in Zambia. Therefore, the selection of participants needed to take into account the availability of resources and participant replacement during absence. Only the DHMT was in position of doing these arrangements. For the same reasons, self-selection of BHPs was also not feasible. As for THPs, both random sampling and self-selection would have been possible, but the institutional embeddedness of the intervention would have suffered.

Given the type of the intervention and the worth of involvement by the organisations administering BHPs (DHMT) and THPs (THPAZ), there was a need for seeking institutional assistance in the recruitment of participants in the intervention. This involvement should later on facilitate the dissemination of acquired knowledge, skills and positive attitudes to other non-participants through PIN within the respective institutions and surrounding communities.

As regards analysis strategy, I opted for analysis at group level. According to Bowling (2002), when used to analyse change in longitudinal studies, this approach runs the risk of reporting what is called “response shift”, i.e. just comparing proportions by groups before and after without explicitly identifying which particular individuals changed and in which direction. In order to minimise this risk of interpretation bias, “turnover tables”, which provide a basic picture of changes in all directions for a given variable, are therefore recommended (Bowling, 2002). These have not been possible to perform since the responses before and after intervention were not paired, i.e. could not be linked to individual participants. The impossibility of linking responses with respondents was the major methodological weakness in this study, which excluded options for analysing the changes at the individual participant level.

In order to present an overall and comprehensive view of the changes, I have opted for using tables listing all response alternatives before and after with the respective proportions, allowing for a general view of the distributions of responses and the subsequent changes. I have also opted for the Mann Whitney test to compare distributions pre- and post-intervention, instead of other measures which compares specific proportions. The Mann Whitney test is indicated for comparing independent groups and it would not be the optimal method in this particular study since the groups being compared are the same. Other methods such as the Kruskal-Wallis test would have been more appropriate. But pairing observations being impossible, the groups were treated as independent. Another alternative method would be the Chi-square test for trend, but it generally renders the same result as Mann Whitney test (Altman, 1999).

The preceding limitations regarding sampling and analysis would have been less important if the sample size had been much larger and if attritions had not occurred. The intervention meetings were well attended and no dropouts were noticed during the intervention period (August 2004 – August 2005). However, at the follow up assessment, which took place in

November 2005, five BHPs and two THPs could not be found. After inquiry, it was found that one BHP had died, one had changed career to become nun, two were on leave at the time of the follow up interview and one had migrated to Botswana. Both THPs were away from home at the time of the follow up interviews. The most important consideration, however, is the fact that these dropouts were motivated by other reasons than attitudes towards intersectoral collaboration. Therefore, rather than resulting in any systematic selection bias, the dropouts reflected the mobility of health workers in the Zambian health sector.

7.2 Collision of worldviews versus collaboration

The tensions existing between the oppositional and collaborative (integrative and pluralist) perspectives (Kaptchuk and Miller, 2005) have been confirmed in this thesis. Differences in beliefs or worldviews, in practices, in education levels, in organisational structures, etc between the two systems are often referred to when arguing for incompatibilities between THPs and BHPs. Within this debate, concerns over efficacy, safety, placebo effects, evidence-based medicine, etc are often mentioned to disqualify usefulness of non-biomedical therapies. These differences are real (Kaptchuk and Miller, 2005).

Colliding views and perspectives exist not only between biomedical and traditional sectors, but also within the respective domains. In the biomedical domain, differing professional values between, for instance physicians, nurses and allied professionals and consequent status differentials, are often referred to as complicating collaborative work (Garman et al., 2006). However, in relation to biomedical and traditional tensions, the fundamental question is whether the differences should uniquely be regarded as obstacles to any collaboration or whether they constitute the very potential for a rich variety of options necessary in enhancing patients' health and well-being (Kirmayer, 2004). It has been argued that it is both useful and necessary to respect the distinctiveness of these two domains while striving for bridging them (Walach and Reich, 2004). This viewpoint emerged in the findings of this thesis, in that a perspective on collaboration as leading to improvements in health care provision was identified. Increasingly, the building of collaborative frameworks is seen as a necessity in HIV prevention and care (UNAIDS, 2006c).

There are empirical reasons for overcoming opposition between biomedical and traditional medicine. Aikins (2002) argues that the clash between the two approaches has a function of underscoring professional legitimacy and expertise. She further posits that the function of this clash is regularly undermined by illness action (therapeutic shopping), whereby individual patients are in a constant eclectic search for cure. Therefore, recognising this therapeutic shopping should open up practical ways for cross-professional collaboration (Aikins, 2002). Indeed, dual use of TM and biomedicine has been reported in care of STIs and HIV/AIDS (Ndulo et al., 2000; Ndulo et al., 2001; Plummer et al., 2006). Furthermore, debates at policy level underscore the importance of the public health approach to the HIV epidemic in Africa (De Cock et al., 2002). In such approaches, issues of collaboration and partnerships are critical in order to achieve population-wide outcomes (UNAIDS, 2006c; WHO, 2003a). Overcoming the differences and tensions is the challenge facing partnerships between the biomedical and the traditional health sectors, that are today depicted by many authors as one of the most suitable strategies to control the epidemic (Andersson, 2005; Bodeker et al., 2006; Eholie et al., 2006).

7.3 Interpersonal relationships and educational approach

Efforts to overcome differences and to build on constructive interdependence (if any) start by improved interpersonal relationships, trust and mutual acceptance, and respect among the concerned actors (UNAIDS, 2006c). The findings in this thesis demonstrate that antagonism between the two groups, lack of trust in THPs by BHPs, etc. were important aspects characterising the relationships between these providers. Policy orientations have thus far not been sensitive to interpersonal aspects of collaborative work between BHPs and THPs. WHO's strategy for TM (2002–2005) suggested a number of issues to be worked out in order to integrate TM into public health policies including, among other things, recognition of TM and investment in research on safety and efficacy (WHO, 2002a; WHO, 2002b). Unfortunately, interpersonal relationships between THPs and BHPs were not mentioned among the key policy triggers for collaborative initiatives.

Acknowledging each group's expertise within its own area and its role in prevention and care constitutes the basis for optimal interpersonal relationships. Such relationships value complementarity in knowledge (biomedical and local knowledge) and therefore the possibility

of learning from one another. The possibility by BHPs and THPs to learn from each other was recognised in the results from this thesis, but the extent to which previous collaborative attempts have tested this potential is questionable. Unidimensional training approach has reflected the dominant discursive practices in this matter. Discursive practices are comprised of a set of tacit rules regulating what can and cannot be said, who can speak with the blessings of authority and who must listen, whose social constructions are valid and whose are erroneous or unimportant (Denzin and Lincoln, 2000). In this respect, the assumption shared by most BHPs and policymakers focuses on 'learning THPs how to do things'. There seems to be a positive side of THPs' practice that BHPs might learn from (Cosminsky, 1983). This is so important since collaboration implies a process of exchange based on provider experience with the problem in question (care, prevention) rather than on titles or status (Henneman et al., 1995; D'Amour et al., 2005). This is in line with one finding in this thesis that education for both groups is a prerequisite for collaboration.

In this thesis we found the tendency for BHPs to indicate more investigative aspects of care (such as technological diagnostic precision) whereas THPs were described by community members to be more social and human-centred. Garman et al. (2006) described how physicians, nurses and allied professionals have different elements determining their propensity to collaborate and their attitudes towards collaborative attempts. Physicians were said to be intrinsically investigative, whereas nurses were more social and allied health providers more entrepreneurial (Garman et al., 2006). In collaborative work, emulation is a result of two-way learning and essential if both groups are to learn from the strengths of the other counterparts. Community members formulated this wish for seeing providers emulate the best aspects their counterparts (i.e. BHPs learning from THPs' kindness).

It is widely recognised that health care providers have limitations in terms of updated skills relative to the management of HIV (Mukherjee et al., 2003), but also in care of other STIs (Hanson et al., 1997). Our results show that training of providers in the necessary skills pertinent to the care of patients with STIs and HIV/AIDS is among the aspects of quality of care that need improvement, according to both BHPs and THPs. This opens up for initiating training occasions where both joint training and separate training might be considered, depending on the subjects. Such occasions could bridge both the attitudes and trust gaps while solving the knowledge and skills problems. Group discussions that encourage interactive

approaches have been showed to be more effective than the traditional lectures in producing attitudinal and behaviour change (Moulding et al., 1999).

Both groups of providers expressed relatively positive attitudes to their counterparts both before and after our intervention, which is an indication that intersectoral collaboration is feasible to develop. But, for this to happen, shifts in the way we conceptualise professional roles and boundaries are required (Kitson, 2000) and pluralism in validity of professional knowledge should be implicitly recognised (Higgs et al., 2004). The interactions should result into the creation of new, practical and contextually relevant knowledge useful in solving the problem question. The process is that of exchange between professionals with different expertises, but whose collaboration is critical in solving a given problem. It should be voluntary, rewarding and with no constraints. The lack of conditionality is exemplified by the fact that the surrender of traditional “secrets” should in no way constitute a condition to collaboration (Koumaré, 1983), as confirmed in this thesis.

Additionally, even with readiness to begin reconsidering professional boundaries and shifting them through collaborative interventions, sustainable change in attitudes and practices should not be expected to occur automatically. Changes are far from being linear. Time needs to be allowed. The process might be characterised by reluctance, attritions, conflicts etc. (Moulding et al., 1999; Lax and Galvin, 2002). Given uncertainties in this these of collaborative issues, building of peer social networks among providers is critical for sustainable changes in attitudes and clinical practice (Mano-Negrin and Mittman, 2001). Moreover, efforts at the provider level need to be supported by positive organizational and context-related cultural factors (Ayers et al., 2005; Martín-Rodríguez et al., 2005).

7.4 Collaboration in the context of universal access to ART

The present era of universal access of HIV treatment calls for innovative strategies. A consensus seems to exist that in resource-poor settings the provision of ART requires other models than the specialist-physician based delivery of care if coverage will increase safely and effectively (Jaffar et al., 2005). This thesis shows that health education (including HIV prevention) and treatment of opportunistic infections were two contributions expected from THPs in a context of control of HIV. Universal access implies intensification of efforts in a number of aspects,

such as VCT, psychological support, palliative care, nutritional assistance and orphan care. Most of these were mentioned by THPs and BHPs in the findings from this thesis as aspects of quality of care requiring improvements.

Voluntary counselling and testing: VCT services are said to have low coverage in most affected countries. In 2002, 95 percent of the population in Africa were unaware of their serostatus (Mukherjee et al., 2003). These services are almost uniquely health facility-based and they are directly linked to test (confidential pre-test counselling and post-test counselling for those found positive), and thus have a short-term perspective. One would argue that gains in terms of encouraged referrals for testing from other non-biomedical sites of care would perhaps increase VCT uptake and contribute to putting more eligible patients under ART. It has been reported that 80 percent of AIDS patients die within four months from initiating the treatment, due to the fact that they start the treatment too late (The Daily Voice, 2006). Voluntary counselling by THPs might perhaps be a step towards increasing coverage of these services, which might help divert many premature deaths. A public health approach to VCT has been recommended (De Cock et al., 2002), but I failed to find a published work on THPs' involvement in providing VCT services (in their present form). Also, it has been argued that full implementation of VCT is likely to improve enhanced and active TB case-finding, preventive therapy, and care for people living with HIV including antiretroviral therapy. In this synergy, strengthened health systems and collaboration with THPs has been mentioned as being critical for success in areas with high HIV prevalence (Godfrey-Faussett et al., 2002; Godfrey-Faussett and Ayles, 2003).

Traditional medicine for care of AIDS-related conditions: Our findings indicate that a sizeable fraction of BHPs agreed that THPs could treat some HIV and STIs related conditions. It was also found that among the reasons for THPs not referring patients to BHPs was that THPs argued that they could themselves treat these conditions. These findings are consistent with other research results on use of traditional therapies in treatment of STIs and HIV related conditions. Different traditional preparations have been found to have some type of effect on STIs and HIV/AIDS related conditions, such as Candida (Runyoro et al., 2006), Herpes zoster (Homsy et al., 1999) and other conditions (Bodeker et al., 2006). A descriptive, prospective clinical study of 33 HIV-positive patients using traditional therapies was conducted and followed up during one year in South Africa. The study showed significant health

improvements (better physical appearance, increased appetite, feeling of well-being, disappearance of skin marks and urogenital lesions, resumption of workplace duties, weight gain, significant reduction in viral loads and significant increase in CD4+ T cell counts (Tshibangu et al., 2004). Recognising THPs' expertise and encouraging them respectfully to share their positive and negative examples of caring for patients with HIV might be a way of getting to know them and the best of their services.

Psychosocial support: In this thesis, it was found that supportive palliative care was recognised by both THPs and BHPs as being among the aspects of care that need to be improved. Psychiatric and neurological conditions including depression, other mood disorders and chronic mental illness are recognised to be important aspects of HIV epidemic (Halloran, 2006). Also, social support has been shown to be associated to well-being in persons living with HIV (Chesney et al., 2003). Pharmacotherapy, psychotherapy or other complementary therapies, including body-mind healing and spiritual techniques are treatment options in these situations (Simoni et al., 2002; Fulk et al., 2004). It is advised to underscore the uniqueness of each patient's case and the need for a careful assessment before any choice of therapy or therapies can be made. In a context such as the Zambian, this type of supportive activity takes place mostly in the community settings, and THPs might play a significant role in providing appropriate psychosocial care (Koumaré, 1983).

7.5 Obstacles and requisites at policy level and among THPs

As found in paper I, the issue of protection of traditional knowledge and of compensation of THPs for their knowledge are key preconditions for collaboration. Protection of traditional knowledge is complicated by its ambiguous definition (that of traditional knowledge) and by the existence of international treaties that seem to give more prominence to prospecting business than to owners of indigenous knowledge (Timmermans, 2003; Dutfield, 2004; Sampath, 2005). Compensation of THPs should first be examined, where feasible, from the point of view of community health assurance mechanisms. Otherwise, collaboration might result in unsustainable costs for those who are in need of both services. This implies considerable organisational capacity and information systems that many low-income countries might not possess.

Organisation and self-regulation is fundamental for THPs to form a body of interlocutor with whom public health authorities and other important national and international actors might feel confident to engage. This refers to the professionalisation of THPs. Professionalisation of THPs is essential if they are to be seen as a corps of partners capable to act as a group. This would give status and legitimacy within the health care sector, vis-à-vis other professional groups, patients, and policymakers. However, professionalisation has also been seen as a danger for the profession, in that professionalisation implies sizeable loss of autonomy and independence for the individual practitioners (Last and Chavunduka, 1986).

There are arguments for professionalisation among THPs. For instance, in this thesis, the community members called upon THPs to be aware and to accept their limitations by providing patients with realistic prognosis on disease and treatment outcomes rather than unrealistic promises of cure. This call pertains to the need for distinguishing false THPs (charlatans, quacks) from genuine THPs (Bruce, 2002). Only a strong professional body can do this. Moreover, non-validated claims of HIV cure by THPs should be ruled out. This self-overestimation has been said to be based on African cosmology where the concept of incurable disease is in principle absent (Eholie et al., 2006). If this is the case, then in relation to HIV there is need for THPs to recognise the so far incurable aspect of HIV. Promotion campaigns of ART will have to adapt to African specificities and have all the cultural aspects taken into consideration (Sifunda et al., 2006), which could be easier if there is a professional body responsible for issuing one common voice representing THPs that can systematically dismiss confusing claims.

7.6 Collaboration and risks relative to quality of care

This thesis was not concerned with investigating the impact of collaboration on quality of care. However, we found that many aspects of quality of care were perceived by the providers as being insufficient, such as training, supplies and many other aspects. One of the challenges for collaborative initiatives is the improvement of quality in both sectors. In such an effort, issues such as misconceptions among THPs, practices exposing patients to risks of HIV, or other infectious agents must be addressed. For instance, a study in Nigeria reported widespread practices consisting of manipulation of blood, such as minor surgeries, scarification or use of non-sterilised devices (Peters et al., 2004).

It has been shown elsewhere that resorting to alternative medicine is associated with decisions by patients with HIV of not taking ART (Kremer et al., 2006) or with the risk of disrupting medication. At present, there is no data from Africa as to how adherence to ART is affected by use of traditional therapies. But the risk of non-adherence or of concurrent of ART and traditional therapies might be serious if nothing is done to prevent it. Also, a large majority of traditional therapies used are known only by THPs, and used clinically before they undergo any scientific examination for risks of toxicity and/or interactions with biomedical medications (Mills et al., 2005a). Two African herbal medicines recommended for patients with AIDS were found to influence antiretroviral metabolism, with implications in terms of risk of treatment failure, viral resistance and drug toxicity (Mills et al., 2005b). Hence, clinical and biochemical research on traditional therapies conducted as part of collaborative efforts would be of paramount value (Cardini et al., 2006).

Another important issue having implications on treatment outcome is that of patient delays in health seeking attributable to their use of THPs' services. THPs are often accused of failing to refer timely to the biomedical health units, causing harm to patients. Studies from Gabon (Okome-Nkoumou et al., 2005) and Nigeria (Okeke et al., 2006) have clearly demonstrated that resorting to traditional practitioners was a risk factor for diagnosis delay. However, delays are evident consequences whenever communication is poor among health care providers, even within the same health sector. Lack of collaboration between providers has been reported to impact on patients by confusing them in their choices between different therapies (Pinkoane et al., 2005). Delayed or failed referrals are primarily related to lack of communication between the sending provider and the receiving provider, as well as to issues of prestige and other related aspects, as shown by a study from rural Niger (Bossyns and Van Lerberghe, 2004). Multisectoral approaches might help overcome the various socio-economic and health systems related determinants or constraints that cause delays (Ndiaye et al., 2005).

Beyond providing the patients with wider options of care, improved collaboration between THPs and BHPs need to be supported by appropriate monitoring and evaluation systems and allowing for quality assessment, including referrals. Hypothetically, quality might perhaps be affected positively by collaboration since previously 'isolated' providers will be aware that patients have higher likelihood of reporting to other providers about their earlier health

seeking efforts. This might motivate individual providers to do the right things and to do them right.

7.7 The role of the community and local leadership

In Africa, HIV care is so far mostly community-based. HIV control strategies not recognising this community element will not have the potential to achieve its goals (Hanson, 2000; Harding and Higginson, 2005). The essential importance of the community members and structures can not be overstated in collaborative attempts between THPs and BHPs. It is important to keep in mind that the BHPs included in this thesis are those working at the lowest level of health delivery system in Zambia, and thus are closely linked to communities, like THPs. Several aspects of community involvement have been identified in this thesis in order to guarantee sustainability and acceptability of intersectoral collaboration. Information was seen as essential, as recognised elsewhere (Hanson, 2000). Community feedback and even financial participation was also mentioned.

The current WHO general programme underscores the importance of involving the civil society, including traditional practitioners in issues related to community health (WHO, 2006b). Several relevant actors must be considered, including community health workers and volunteers, self-help groups and not least associations of people living with HIV. Specific community based programs and models exist in addressing particular problems such as nutrition (Sadler et al., 2006), treatment strategies and prevention (Farmer et al., 2001; Kloos et al., 2003), as well as home-based care (Harding et al., 2003). Since care is a continuum of activities, it makes sense to have representatives of these actors involved in THPs and BHPs collaborative undertaking. Each of these actors represents a site for care. Together they contribute to a web of sites that need to be connected and integrated, according to Indyk and Rier's "geometry of care" (Indyk and Rier, 2006a; Indyk and Rier, 2006b). Full and active participation by such actors is crucial (Packhan, 1998). This would allow the collaborative project to be integrated in the local public health context rather than limited to clinical matters (Shoultz and Hatcher, 1997) and to a dichotomisation of problems in terms of THPs roles, qualities, competence etc. versus BHPs'. A task analysis approach has been suggested to eliminate much of the abstract anatomy and physiology that so far have hijacked most training courses in collaborative settings (MacCormack, 1986).

In relation to leadership, decentralisation has been advocated for in the last decades as a step towards more responsive health systems, particularly in resource poor settings with less developed infrastructure (Walt, 2004). From our field experience during the intervention process, the importance for district health authorities being open-minded and committed was realised. This is pertinent in terms of mainstreaming the collaborative idea in the local health service arena. Mainstreaming collaboration in local health arena would permit the understanding of links between health and other non-medical community activities, such as food security and vulnerable children's care, to refer to the concept of total palliative care (Harding and Higginson, 2005; Sarker et al., 2005). Collaboration in this sense represents a move from health care to public health care (Shoultz and Hatcher, 1997), which is required to effectively control HIV and its consequences (Höjer, 1999; Indyk and Rier, 2006a; Indyk and Rier, 2006b).

Leadership inclusiveness (i.e. the capacity of the leader to encourage, invite and express appreciation for the contribution of the weaker participants) was found to sustain psychological safety and positive learning attitude required in teamwork for quality improvement (Nembhard and Edmondson, 2006). Such a quality of a leader is particularly useful in collaborative initiatives involving partners with different hierarchical and status levels. One of the lessons I learned during our intervention indicates that community research, whatever participatory it might be, needs to rely on local leadership. Proximity of the coordinating body is key for efficiency and sustainability. Releasing health workers to participate in the time-consuming collaborative activities can not be effective unless the district authorities understand the usefulness of the activities. Also, for logistical support that might be decisive for day-to-day functioning of locally initiated collaborative undertakings, such committed leadership is essential. In this thesis, it was found that THPs seem to be suffering from stigmatisation. It is doubtful that they can fully believe in true collaboration with BHPs unless they see that local health authorities demonstrate inclusiveness.

High mobility by health workers, as in Zambia, is a factor that can jeopardise collaborative efforts. Without district health authorities investing efforts to mainstream collaboration, any progress made might be lost when health workers shift to another location or leave the public sector. Moreover, long-term collaboration depends on these authorities' willingness to include

collaborative work in their regular budgets. In this way, also, non-local actors such as international donors would start supporting genuine intersectoral collaboration through district health budget, within the framework of human resources for health development or health system strengthening. This is very long-term perspective.

8 CONCLUSIONS

Using an explorative approach, the present thesis explores important issues in relation to opportunities, obstacles and interventions in order to improve collaboration between BHPs and THPs. The following are the key issues identified in this thesis and that need to be considered in collaborative initiatives.

- Controversy about the feasibility of positive collaboration between THPs and BHPs is present. But complementarity in responding to patients' therapeutic itinerary seems to be an argument for possible collaboration.
- Collaboration between BHPs and THPs requires both strong policy measures such as protection and compensation of THPs. The role of the community members and structures needs to be recognised and strengthened. Improved organisation of THPs was also found to be critical.
- Experience of collaboration is low among BHPs and THPs; and STIs and HIV/AIDS and maternal health are not integrated in the uncommon collaborative initiatives in Zambia. A willingness to work closer and to learn from each other seems to exist. However, the learning approach needs to consider two-way learning rather than one-way teaching. Legal and interpersonal aspects are major obstacles to intersectoral contacts.
- Aspects of joint concern among BHPs and THPs for improved quality of care, including the training of providers, nutritional support and health education to patients, need further attention in collaborative initiatives. Further, there seems to be indication of a need to expand and adapt VCT, home-based care and palliative care to THPs.
- Dialogue-building intervention involving BHPs and THPs pertinent to STIs and HIV/AIDS care are feasible. More participative and community based approaches seem indicated in order to tackle the multifaceted HIV/AIDS prevention and care issues. Intersectoral collaboration is, however, a process and it needs time, coordination and synergy with other relevant social activities in the community.
- This thesis also indicates that in countries experiencing human resources shortage, such as Zambia, organising interventions where BHPs are participants on equal terms as THPs is challenging due to difficulties of recruiting enough numbers of BHPs. Such

difficulties cannot materialise as clearly when BHPs are involved only as educators or trainers.

9 RECOMMENDATIONS FOR FURTHER RESEARCH

In order for the collaborative undertaking to go beyond uniformed scepticism and uncritical optimism, there is need for more research to constitute strong evidence base for collaborative endeavours. From the findings of this thesis, a number of aspects on which future research on collaboration between THPs and BHPs can build upon might be identified.

- Mechanisms of dissemination of good attitudes and collaborative practices to non-participants in collaborative interventions: Are the effects of collaboration interventions reaching out to the many practitioners who do not take part in intervention activities? What are the most effective ways of disseminating such practices to all relevant community structures?
- Given the difficulties of mobilising enough numbers of BHPs, on-the job interventions enhancing collaboration should be identified and their feasibility assessed.
- Collaboration and the levels of delays: it might be interesting to know what types of delays will persist (if any) even in structured collaborative schemes between THPs and BHPs; and the factors explaining these delays.
- The cost-effectiveness of collaboration (from the patient and the health care system perspective).
- Biochemical research on traditional therapies in order to check for efficacy, toxicity and interactions.
- The international actors' perception of increased intersectoral collaboration: Are they supportive (and how?) If not, why?
- ART scale-up and THPs: How are THPs adapting to ARV roll-out? Can use of traditional medicine be associated to adherence or non-adherence? How are patients coping with side-effects of ART through to use of traditional therapies?

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