Re-positioning the Role of Traditional, Complementary and Alternative Medicine as Essential Health Knowledge in Global Health: Do They Still Have a Role to Play?

Daniel Hollenberg, PhD, Research Associate and Health Services Researcher, Department of Health, Aging and Society, McMaster University; Centre for International Health, University of Toronto

David Zakus, BSc MES MSc PhD, Director, Centre for International Health; Associate Professor, Dalla Lana School of Public Health; Co-director, MHSc Global Health Concentration; Associate Professor, Department of Health Policy, Management and Evaluation, Faculty of Medicine, University of Toronto; Immediate Past-President, Global Health Education Consortium (www.globalhealthedu.org)

Dr. Tim Cook, FRCPC, MPH, DTMH, CD, Director of Internal Medicine, Medcan Clinic, Toronto

Xu Wei Xu, Dr. of TCM, Research Associate, Centre for International Health, University of Toronto

Daniel Hollenberg, PhD, Department of Health, Aging and Society, McMaster University, 1280 Main Street West, Kenneth Taylor Hall Room 236, Hamilton, Ontario, Canada L8S 4M4, Tel: 905 525-9140 ext. 26390, Email: hollend@mcmaster.ca

Abstract

Traditional, complementary and alternative medicine (TCAM), drawn from indigenous medical and/or healing knowledge systems from around the world, has for the last 30 years been recognized by the World Health Organization (WHO) as providing culturally acceptable, affordable and sustainable primary healthcare. TCAM knowledge has been known for some time to assist with birthing practices, acute injuries, infectious diseases and parasites. Although the focus on TCAM began in earnest by the WHO in 1978, and was re-emphasized between 2002 and 2008, TCAM has for the most part been overlooked in large-scale international health programs.

This paper follows recent global interest in TCAM and examines notable developments that have specific relevance for TCAM integration in global primary healthcare. Drawing on established work by Bodeker and others, we focus on how TCAM is used in the context of health promotion, disease

prevention and the reduction of infectious diseases. Specific examples include the use of TCAM practitioners for HIV/AIDS prevention awareness and direct treatment of AIDS-related symptoms; the use of TCAM herbs for the treatment of malaria and the use of home herbal gardens for health maintenance. The final contribution of the paper helps to theorize inherent challenges and possible solutions to integrating TCAM into global health that have not been widely discussed to date.

Introduction

Traditional, complementary and alternative medicine (TCAM)[1] is now a recognized focus of inquiry across a wide range of disciplines within the biomedical and social sciences. Aspects of TCAM research include basic science and clinical outcome studies examining mechanisms of action and biomedical evidence of efficacy; epidemiological and demographic analyses of disease patterns and use of TCAM; and, most recently, policy analysis relating to the integration and regulation of TCAM with biomedicine – what is being called integrative medicine (IM) and/or integrative healthcare (IHC). Indeed, TCAM research is now recognized as a fast-developing field of inquiry full of new areas for exploration. Yet critical scholars are commenting frequently that TCAM research is consistently dominated by certain paradigms or modes of inquiry, most notably of reductionism stemming from the widespread global entrenchment of the biomedical paradigm across many fields of healthcare research. As Bodeker and Burford state:

> In establishing policy, these fundamental theoretical underpinnings of traditional health systems may either be respected and perpetuated, or converted into a biomedical expression and agenda. These approaches result in very different prospects for traditional medical knowledge and its continuity as a cultural health care resource (Bodeker and Burford 2007: 4).

Indeed, one of the most widespread observations by critically informed scholars today is that the majority of evidence models for TCAM have consistently relied on laboratory and outcome studies of mechanism of action and strictly controlled design models that are considered at the top of the evidence-based medicine pyramid. Of particular consequence is that within this pyramid, internally consistent TCAM paradigms and explanatory models, on the whole, do not fit and are discounted as legitimate knowledge (see Harding 1998; Hollenberg and Muzzin 2008). The hegemony of biomedical knowledge is also felt, for example, in the Cochrane Review online database of TCAM research, where meta-analyses of TCAM studies conclude that nearly all TCAM modalities reviewed are clinically ineffective or "require more research." It is not surprising, then, that the dominance of biomedical modes of inquiry into TCAM has left important pockets of TCAM completely unexplored, marginalized or poorly researched. One of these pockets is the role of TCAM in global health. Global health is understood to refer to healthcare important to populations around the world, especially for those most vulnerable and marginalized from the formal health system, with relevance to diverse aspects of health, illness, disease and wellness.

By choosing the title phrase "re-positioning the role of TCAM" in global health, our main argument is that despite having entered the limelight once again in the international health arena, TCAM remains stigmatized in a way that is not an accurate or fair representation of its full potential for the health of world populations. Thus, by "re-positioning TCAM," we are proposing that a shift is required to view TCAM more legitimately as an essential health resource for both local communities and wider populations alike. In focusing on the potential and future roles of TCAM, we represent a group of like-minded scholars and healthcare practitioners who recognize the importance of TCAM in international and global health.

In focusing on TCAM, we are aware that we have immediately entered a complex debate that has been ongoing since the WHO targeted TCAM as a primary healthcare resource in 1978. TCAM is

[1] Although now having various acronyms (e.g., CAM, CM, TM, CIM, etc.), "TCAM" is now widely used by the World Health Organization (WHO), and also includes traditional Chinese medicine (TCM).

neither a pure and untapped resource that will become the "new" primary healthcare technique to rid the world of disease, nor is it merely a vehicle to be appropriated by biomedical knowledge, with TCAM having no richly detailed and clinically effective health knowledge of its own. It is clear that TCAM does have merit, both in the context of primary healthcare and as clinically effective traditional health knowledge. Moreover, as anthropologists have long noted, the issue of "evidence and efficacy" in TCAM remains contentious in many fields of inquiry. Whether it is biomedically recognized or not, in certain contexts TCAM clearly has the ability to affect physical disease categories in ways that closely resemble a biomedical "cure," and that could be recognized by both biomedical doctors and traditional healers alike. Yet biomedically recognized forms of TCAM represent only a part of what TCAM would consider "effective." For TCAM, the amelioration of suffering is at times a complex interplay between the relief of physical symptoms and health on multiple other levels that include changes to psycho–emotional–spiritual states and re-integration with one's family or community. Perhaps baffling to biomedicine, TCAM often recognizes that there could exist "healing without cure" and that healing can comprise multiple and intricate processes (Waldram 2008).

The purpose of this paper is thus to (a) re-examine the role of TCAM in the context of global health by highlighting specific areas where it can be viewed as important, (b) draw on these examples to critically re-position TCAM as legitimate and essential knowledge for global health initiatives today, and (c) discuss, by drawing on a more critical theoretical perspective, the inherent challenges to TCAM that are restricting it from being viewed as an essential part of international health projects.

Background

It is important to clarify the differences between *traditional* medicine (TM) and *complementary/alternative* medicine (CAM). TM refers to long-standing indigenous systems of healthcare found mostly in developing countries and among the indigenous populations of industrialized countries, where humanity is more directly linked with nature and the environment on a day-to-day basis, where knowledge is often passed down orally through generations, and where the focus is often to restore balance to body, mind and society (Bodeker 2006). As Bodeker et al. further explain:

> In most developing countries, traditional health systems are grounded in long-standing cultural and spiritual values. Traditional health knowledge extends to an appreciation of both the material and non-material properties of plants, animals and minerals. Its classificatory systems range in scope from the cosmological to the particular, in addressing the physiological makeup of individuals and the specific categories of *materia medica* (the materials used for therapeutic purposes) needed to enhance health and well-being. Mental, social, spiritual, physical and ecological factors are all taken into account (Bodeker et al. 2007a: 11).

Although clearly related, complementary/alternative medicine (CAM) refers to systems of healthcare distinct from biomedicine that are practised in rich, "developed" nations and may or may not include systems or parts of TM. For example, traditional Chinese medicine (TCM) is the TM system in China; however, TCM and/or acupuncture (a part of TCM) are viewed as a type of CAM when practised in North America, the United Kingdom, Israel and Europe. Although many definitions of TM and CAM continue to be offered and often co-exist, a clear distinction can be made here. Further, biomedical healthcare modalities such as chiropractic, massage therapy, naturopathy and homeopathy, while related to TM, are clearly CAM systems. The majority of the discussion that follows will largely focus on TM in non-Western healthcare settings, as it is TM in particular that has been most overlooked in global health.

As Bodeker (2006) states, the use of TM can be thought of as responding to two fundamental questions: (1) How can countries address the health needs of their people without continuing to rely on expensive, imported medicines? and (2) How can local, existing systems of healthcare be utilized to provide basic health services to rural and poor communities? A now often-cited statistic

is that up to 80% of citizens in non-Western countries use some type of TM for direct primary healthcare needs (although this figure would of course vary country by country). For example, approximately 60% of individuals with HIV/AIDS in sub-Saharan Africa use TM (UNAIDS 2000). The range of TM modalities includes herbal medicines (all forms), physical therapy and other body practices (e.g., massage and acupuncture), meditation, spiritual practices and strategies contributing to health promotion and prevention (e.g., women's health, birthing practices and midwifery). TM also has an extremely wide application, as demonstrated by the indigenous Aboriginal population of North America, who used over 500 medicinal plants to treat such illnesses as wounds, skin eruptions, stomach complaints, coughs/colds/fever, rheumatism/arthritis, freezing/frostbite, burns, cancer, blood poisoning, toothaches and others (Clarke 2004). Contemporary Aboriginal healthcare practices in North America continue to use surviving TM knowledge in the form of herbal and other medicinal practices.

Tracing the Patterns of TCAM Marginalization

A second significant observation that should be noted early on when discussing TCAM is that although it is widely used by millions of citizens globally, its use is not reflected and/or incorporated into the majority of government-funded international health campaigns initiated by Western or "rich" nations (Bodeker and Burford 2007). This conservative biomedical policy, which is ongoing, can be traced to an exclusive reliance on biomedically centred evidence models and, further, rests upon an epistemological bias against indigenous knowledge that stems from colonial times (Harding 1998). This biomedical bias can be viewed theoretically as a major reason why TCAM is not included as an essential aspect of Western-based international health projects, despite use of TCAM globally, often as the first source of care. Following detailed work by anti/post-colonial scholars such as Harding (1998) and Shiva (1993, 1997), we see the colonial view of TCAM as the major "diagnostic problem" leading to the current concept of TCAM in international/global health programs. As anti/post-colonial scholars often note, valuable and legitimate ideas that originate in Southern countries often do not receive the attention they deserve in the "global debate" and are viewed with no confidence. Yet Southern ideas consistently retain the capacity to rebuild local patterns of development (Jentsch and Pilley 2003).

Since 1978, a major part of TCAM, that of traditional medicine, has been recognized by the WHO as important for advances in global health. Recent TM policy documents have been generated (e.g., WHO 2002; WHO 2008) emphasizing the role of TM in healthcare systems. At the same time, the main prevention approach for major global diseases such as HIV/AIDS enacted by development leaders, including UNAIDS, the WHO and most aid organizations, is increased access to biomedical forms of drug-based treatment, such as antiretroviral (ARV) drugs, not TM. Critically informed anthropologists question why the "evidence" and/or science of TM is not included in international development policy and projects. As Pigg states:

> Often it is simply assumed, without seeking evidence, that only the medical solutions offered by development save lives, when, in fact, it remains a matter for research and debate just how "efficacy" is to be evaluated and what sorts of medical techniques and therapeutic systems, in precisely what kinds of social contexts, alleviate bodily suffering "best" (Pigg 1995: 49).

As Kaboru et al. (2008) further comment, what remains to be resolved is how this consistent biomedical orientation to large-scale international health projects will operate in various non-Western targeted countries, where biomedical healthcare is out of reach financially to many, and staff are in short supply, overwhelmed or simply non-existent. Physician-to-population ratios in many areas of the world are sometimes as low as one physician for every 100,000 citizens (Bodeker 2006), and the world lacks, in general, 4.1 million health workers.

As Pigg comments:

> Mainstream development programs that work with indigenous knowledge … manage the circulation of discourses in ways that ensure that development knowledge seems to count everywhere, while indigenous knowledge counts in only limited and carefully controlled ways (Pigg 1995: 49).

In certain areas of healthcare policy dealing with TM (e.g., Homsy et al. 2004; WHO 1990; UNAIDS 2000), TM is viewed as a targeted resource discussed as part of scaling up efforts to control diseases such as HIV/AIDS and malaria. The main approach, continuing to reflect a biomedical bias toward TM, is to retrain traditional health practitioners (HPs) to deliver biomedical primary healthcare skills and services, such as public health education and counselling, and condom distribution in the case of HIV infections (see King 1999; Peltzer et al. 2006; UNAIDS 2000). Although biomedical training for traditional HPs remains important, in the minority are new approaches that focus on biomedical HPs and traditional HPs learning together and from each other (see Kaboru et al. 2006) and working together for the general good of their shared populations.

Even with focused efforts toward a more balanced approach to the professional interface between biomedical and traditional HPs, negative biomedical attitudes toward TM continue to surface among biomedical HPs, even in China, where TCM is protected by government policy and is a big part of shared tradition. An optimistic argument has been proposed by some to suggest that the ongoing criticism by biomedical HPs working with traditional HPs reflects a critical awareness process full of conflict and tension, which it is hoped could adapt biomedical HPs to become reflective and capable of questioning their own assumptions, and, also, become more open to new perspectives (see Kaboru et al. 2008: 121). In the professions literature, biomedical HPs are naively portrayed as simply reacting from their perspective of strong professional values that are resistant to new perspectives (Hall 2005).

Re-positioning the Role of TCAM from Marginalization to Importance in Global Health

TM in particular has a long history in pre-colonial indigenous nations of treating a wide array of primary healthcare concerns, extending from first-aid-type treatment for broken bones and burns to treatment for acute physical symptoms associated with infectious diseases such as diarrhea. Much TM knowledge was lost through the direct actions of colonial powers that banned use of TM in the nineteenth and twentieth centuries when Western medicine was professionalizing and expanding globally (e.g., Ayurvedic medicine was banned in nineteenth century India – see Banerji 1981). However, numerous TM traditions and a great deal of health knowledge have re-established themselves and are now essential aspects of healthcare systems in their countries of origin. For example, in countries such as China, India, Vietnam, Japan, Korea, Nepal, Thailand and various countries in Africa (e.g., Ghana), and in many other countries and regions, significant aspects of TM are directly integrated at national levels of healthcare systems (see WHO 2002).

As will be discussed below using various examples, TM has provided and continues to provide direct forms of primary healthcare to global communities. By drawing on local resources, TM also provides important care to communities with low physician-to-population ratios and who have little access to Western biomedicine.

Examples of TM and Their Potential Use in Global Health

As we have pointed out above, the efficacy of TCAM can be interpreted in a number of different ways, depending on one's theoretical orientation and what one counts as legitimate and illegitimate knowledge. The marginalization of TCAM also happens in a number of simultaneously occurring ways. TCAM is overlooked for its potential impact, recognized in only a limited fashion and ignored when biomedical results are produced. In the section that follows, we focus on the last category of biomedical forms of TCAM evidence that have been ignored and underused in international health. Following Waldram (2000) and Pigg (1995), we agree that biomedical TCAM evidence represents

only one type of "evidence" that has been marginalized in international health projects, in addition to other evidence types that include different kinds of healing, from physical to spiritual levels. We have chosen the most biomedically amenable forms of TCAM evidence to highlight that even when TCAM is "proven," it is largely ignored. As Waldram argues:

> It is essential that we comprehend the empirical nature of these medical systems and escape the lingering bonds of the antiquated view that traditional medicine can only be understood in terms of religion, superstition, and magic (Waldram 2000: 610).

For the purposes of our discussion, then, the main strengths of TM that have been overlooked in the context of global health can be generally categorized into two main areas: (1) direct symptom management and reversal of acute diseases, and (2) health promotion, management and prevention related to illness and disease and maintaining well-being. As noted, these two related strengths of TM can be viewed as an integral part of primary healthcare in which TM is used to treat between 60% and 80% of the global burden of disease (Bodeker 2006; Kaboru et al. 2006).

Symptom Management and Acute Disease

The main point here is that despite the widespread use of TM and integration into non-Western healthcare systems, Western international health campaigns for "big-ticket" infectious diseases such as HIV/AIDS and malaria, among others, are almost uniformly biomedical in their approach (Bodeker and Burford 2007). As HIV/AIDS and malaria are arguably the top killer diseases in non-Western countries, the use of TM for these two diseases will be summarized below. These summaries draw largely on recent in-depth analyses by Bodeker and Burford (2007) and colleagues, who are policy leaders on the use of TM in various aspects of healthcare systems.

TM and HIV/AIDS

As Bodeker et al. (2007b) clearly outline, a wide array of TM plant-based remedies (and nutrition) have significant effects on opportunistic infections associated with HIV, sexually transmitted diseases (STDs) and on the limitation and/or destruction of the HIV virus itself. As the authors state:

> As the medicinal compounds in plants have evolved as defences against bacterial, fungal and viral attack, it is self-evident that traditional systems of health care incorporate a vast array of antimicrobial compounds, many of which are already used very effectively in managing HIV-related illness (Bodeker et al. 2007b: 258).

Although TM does not yet offer a "cure" for HIV, significant in vitro results as summarized by Cos et al. (2004), for example, document direct antiviral effects, such as interference with the HIV enzyme responsible for viral replication in the body.

Of equal importance to direct cellular interference with the HIV virus is the ability of TM to stimulate and/or modulate the body's immune system.[2] As Bodeker et al. state:

> Many plants used in traditional medicine have immunomodulatory or immunostimulant properties, which can potentially contribute a great deal to the well-being of people living with HIV/AIDS. Even if the HIV-1 virus cannot be directly inactivated or killed, altering the activity of other components of the human immune system – such as the complement system, macrophages, dendritic cells, helper T cells, natural killer (NK) cells, polymorphonuclear (PMN) leukocytes, and B lymphocytes – may compensate to some extent for the loss of the CD4+ T-cells that are destroyed by the virus (Bodeker et al. 2007b: 260).

[2] The use of TM referred to here is as an"immunostimulant" or "immunomodulator".

As the authors document, three well-known medicinal plants from TM traditions in India, China and North America used to aid the immune system compromised by HIV include (1) various parts from the neem tree in India (*Azadirachta indica*), (2) an isolated polysaccharide from the Chinese herbal root *Astralagus membranaceus*, and (3) the now well-known *Echinacea purpurea*, originally used in Aboriginal populations in North America (Bodeker et al. 2007b).

The third and fourth uses of TM in the treatment of HIV are the control of HIV-related opportunistic infections and the ability of TM to promote weight gain among those living with HIV. Two of the most damaging infections to people living with HIV/AIDS are caused by the fungus Candida albicans and the bacterium *Mycobacterium tuberculosis* (TB). Concerning the latter, Cos et al. (2004) document the use of a molecule derived from *Calophyllum lanigerum*, a plant used in TM that, to date, is the only identified compound found to fight both drug-resistant TB and HIV viruses simultaneously (Bodeker et al. 2007b). TB can be an unfortunate but common occurrence among immune-compromised people living with HIV/AIDS.

Substantial advances in African traditional medicine using combinations of TM plant remedies have also demonstrated significant weight gain in up to 85% of patients in one study of 62 Senegalese patients from the Ivory Coast (see PROMETRA 2003, in Bodeker et al. 2007b). African TM multi-compound plant remedies have also demonstrated substantial combination effects, including not only weight gain, but also in reducing viral loads of various patient samples (e.g., from 99% to 66%), boosting white cell (CD4) counts (e.g., from 100% to 400%) and reducing fevers and diarrhea (Bodeker et al. 2007b).

TM and Malaria

Malaria currently infects approximately 300 million people per year, with over two billion febrile episodes resembling malaria annually (Willcox and Bodeker 2007). One of the most deadly types of malaria, *Plasmodium falciparum*, causes more deaths in young African children than any other infectious agent. Combining inter-related social factors such as poverty and the various effects of rural geography of living areas, malaria also accounts for nearly 60% of deaths in the poorest 20% of the world's population, often at the worst of times, such as just before harvest season (Willcox and Bodeker 2007).

Although chloroquine remains the most effective antimalarial in the laboratory environment, chloroquine-resistant malarial parasites have now occurred widely, mirroring the threefold increase of malarial deaths in Africa since 1980 (Willcox and Bodeker 2007). Although insecticide-treated bed nets are now getting wide distribution, at least 40% of the world's population are without access to antimalarial drugs, while lack of political will has severely limited drug-based antimalarial programs.

While certain strains of malaria have been genetically mapped, the cost for reverse-engineered drugs and vaccines will be prohibitive to local rural populations. As noted by Willcox and Bodeker (2007), effective TM measures are available to the poor but have received very little attention from the "big players" in the malaria world. The authors argue:

> History has proven traditional medicine to be the surest source of effective anti-malarials. *Chinchona* and *Artemisia annua* have provided the basis for two of the three main classes of anti-malarials, and there is evidence that many other plants contain useful anti-malarial agents. Herbal remedies have several potential advantages, perhaps most importantly, that they are readily available and affordable. Patients, even in the remotest areas, could be empowered to cultivate, prepare and administer effective herbal anti-malarials, thus freeing them from dependency on unreliable supplies of modern medicine from the outside world (Willcox and Bodeker 2007: 242).

The herb *Artemisia annua* has particular relevance in the global control of malaria. Although the active ingredient, artemisinin, has been isolated and prepared as a pharmaceutical form, again it remains expensive and inaccessible to local populations. The herbal preparation of *A. annua*,

however, is much easier to grow and prepare locally and is now being explored widely (Willcox and Bodeker 2007). Although slightly less effective than the synthetic artemisinin, the synergenistic effects of the raw herb bioflavonoids represent multiple agents with antimalarial compounds that also prevent development of bacterial resistance. Thus, a wide-scale development program of the raw form of *A. annua* may prove to be the most effective global antimalarial strategy to date. The use of TM herbs for malaria may now be essential in the face of rampant, fake antimalarial drugs and speculation about new strains of artemisinin-resistant malaria now emerging.

Home Herbal Gardens

Home herbal gardens refer to one aspect of local health traditions usually employed in rural or non-Western communities where, worldwide, thousands of medicinal plants are grown for local use at the residential level. The main types of health problems that can be addressed with home herbal gardens include cold, cough, fever, diarrhea and dysentery, cuts, wounds, insect bites and women's reproductive health (e.g., dysmenorrhea).

Home herbal gardens are viewed as essential components of TM and primary healthcare. For example, in parts of India, Hariramamurthi et al. (2007) report that a typical primary healthcare centre covering 30,000 citizens receives only 30,000 rupees per year, averaging only one rupee per year for each person who may attend the centre. In contrast to this paucity of biomedically based primary healthcare, Hariramamurthi et al. note that:

> In India, Local Health Traditions (LHTs) exist in rural communities. There are hundreds of millions of households and more than a million village healers who know about the use of ecosystem resources of plants, animals and minerals for human, veterinary and plant health. It has been documented that in India, 4635 ethnic communities, including one million folk healers, use around 8000 species of medicinal plants (Hariramamurthi et al. 2007: 169).

Select home herbal garden programs have been initiated in various parts of India and now reach more than 6000 villages and hamlets, with approximately 150,000 of these gardens in operation (Hariramamurthi et al. 2007). Establishment of home herbal garden programs includes a participatory community and healthcare provider approach that invites community members and traditional and biomedical HPs to pool their evaluative knowledge of effective medicinal plants in the community. Qualitative and quantitative evaluations have revealed that home herbal gardens are used largely by women and children in extremely poor communities as effective responses to cough, cold and fever (Hariramamurthi et al. 2007). In addition to being effective, these gardens have also proven economical and accessible and, as such, contribute to poverty alleviation by reducing community health expenditures on foreign drugs and healthcare services. It is evident that the cultivation of *A. annua* for malaria could easily be implemented through the home herbal garden framework.

TM and Health Promotion/Prevention

In addition to the strengths of TM to treat infectious diseases and acute symptoms, TM has always had a wide application in the promotion of health and the prevention of disease and illness in various communities around the world. Traditional HPs, historically, were rooted in a shamanistic healing tradition that linked physical symptoms with the wider social community and to the community's norms and/or mythology. Anthropologists have long documented the role of the local shaman as a combination of healer and cultural broker of social and health relationships in the community, inherently engaging aspects of both health promotion and awareness of the prevention of disease. Caution is always needed when assessing the strengths and weaknesses of any community member designated as "healer," be it a Western doctor or indigenous shaman. The point is that the significance of TM in the context of health promotion/prevention has been noted in the continued widespread use of traditional birth attendants (TBAs) and in the use of traditional HPs to promote HIV/AIDS awareness.

Although still limited to a biomedical approach, traditional HPs have become important for HIV public health education throughout countries in Africa. As Bodeker et al. state:

> Traditional health practitioners are often excellent community educators – making important contributions to ongoing HIV/AIDS prevention programmes, increasing condom use, and helping to eliminate risky behaviours. Their high level of community acceptance and respect makes them ideal for such a role (Bodeker et al. 2007b: 257).

For example, one South African program that trained 1510 traditional HPs in 1997 to provide HIV/AIDS awareness reported reaching nearly one million clients within its first 10 months (Green 1997; Bodeker et al. 2007b). Perhaps the most well-known and often-cited example is that of the Ugandan NGO Traditional and Modern Health Practitioners Together against AIDS (THETA), established in 1992. Other similar efforts are occurring in Kenya (WOFAK) and Tanzania (TAWG). As Bodeker et al. note:

> THETA has conducted workshops to share knowledge on AIDS prevention and also treatment of opportunistic infections using local herbal remedies. Traditional healers participating in clinical observational studies of their herbal medicines have subsequently sought training in prevention, education, and counselling issues as well as in basic clinical diagnostic skills (Bodeker et al. 2007b: 269).

Also occurring in the health sector context of public health/health promotion methods are the activities of traditional birth attendants. TBAs are active in nearly every WHO region, for example, in 36 countries in the WHO African Region. Bodeker et al (2007c) discuss how Malawi has integrated TBAs into its national health policy since the 1970s. As noted, biomedical primary healthcare approaches have largely focused on training TBAs in biomedical techniques, with sanitation techniques and the recognition of the warning signs of an impending emergency having been of most value for reducing maternal and infant mortality. TBA knowledge, such as the use of hammocks, has in some instances "retrained" biomedical physicians and forged new partnerships between TBAs and obstetricians (Davis-Floyd 2000).

Discussion: Theorizing about Challenges to TM in Global Health

Thus far this paper has argued that, historically and currently, the role of TM has consistently been overlooked and/or neglected in global health initiatives, despite the above-stated strengths that include direct treatment of infectious diseases and health promotion/disease prevention strategies. Arguably, the major reason for this lack of inclusion can be directly linked to an epistemological bias within biomedicine and Western science that devalues the worth of indigenous knowledge and even ignores it when presenting evidence-based information. The devaluation of indigenous health knowledge has created a "conceptual gap," leaving the potential use of TM in global international health endeavours largely unaddressed.

Although WHO documents have possibly expanded the awareness of TM in the international health community, the response to TM that can be viewed in the international biomedical health literature continues to reflect a reductionist biomedical bias. Moreover, it is fair to say that the majority of policy issues involving TM as endorsed by the WHO have yet to be widely implemented by international health projects "on the ground," also a likely symptom of the continued biomedical bias against TM. This lack of engagement can be repeatedly observed even with the renewed emphasis on TM by new leaders in the WHO. While stating that "traditional medicine can also help prevent so-called modern lifestyle diseases such as diabetes, heart disease and mental disorders," WHO leaders insist that "Many traditional medicines have an inadequate evidence base when measured by these [biomedical] standards" (Schearf 2008). For example, health researchers around the world who are working directly with TM in HIV/AIDS patient populations are frustrated with

this contradictory agenda (see Kaboru et al. 2006).

From the pervasive conservative biomedical tradition that has "invaded" international health policy making, TM is viewed colonially as a resource only to be cautiously explored for its potential benefit to increase the effectiveness of biomedical primary healthcare techniques. From the biomedical perspective, the inherent challenge of TM is how to use a valuable resource while attempting to tame or restrict its "wild," uncontrollable qualities (such as perceived side effects and the misguiding of patients to ineffective treatments). Biomedical critics of TM are quick to ask that if TM can treat infectious diseases like malaria and HIV/AIDS, why has there not been an eradication of these diseases worldwide? The main response to this critique is that while TM is certainly not a "cure all" for infectious disease and drugs are certainly important, TM *can* have efficacy in locally embedded contexts. At the same time, however, the widespread therapeutic effect of local knowledge has been marginalized through colonization, with the overall consequence that TM is undervalued in today's biomedical and international health communities.

The inherent biomedical bias against TM has additional consequences that directly affects relationships between patients and traditional and biomedical HPs. Just as with CAM in more industrialized nations, patients using TM are hesitant to disclose their use of TM when consulting a biomedical HP, such as in a more formal primary healthcare clinic. Relations between biomedical and traditional HPs have historically been strained, with little communication and cross-referral, similar to tensions between biomedical HPs and CAM providers.

For example, a recent study by Kaboru et al. (2008) evaluated a pilot dialogue-building intervention involving traditional and biomedical providers focusing on STDs and HIV/AIDS care in Ndola, Zambia. The study is the most recent to report statistically significant changes in attitudes to and practices of collaboration between traditional and biomedical HPs. On a positive note, after the intervention 32% more biomedical HPs thought it acceptable to refer a patient to a traditional HP, and 34% more biomedical HPs agreed that traditional HPs can provide good counselling to HIV-positive patients and that biomedical and traditional HPs could easily work together (Kaboru et al. 2008).

Positive changes among traditional HPs were also observed. Nearly 75% more traditional HPs agreed that biomedicine was good for patients with STDs/HIV than before the intervention, and 60% more traditional HPs agreed that it is acceptable for them to refer certain patients to biomedical HPs (Kaboru et al. 2008). Certain results as summarized in data tables, however, were not extensively discussed or analyzed.

While biomedical HPs thought it acceptable to refer patients to traditional HPs, biomedical HPs' opinion of the effectiveness of TM for patients *decreased* after the intervention, in addition to a decrease in the belief that they could learn new knowledge from traditional HPs (Kaboru et al. 2008). Traditional HPs, on the whole, were perceived by biomedical HPs as being able to convey only biomedical *counselling* to patients, not clinical TM. Perhaps sensing biomedical distrust, the opinion of traditional HPs that biomedical HPs "look down" on them only decreased slightly after the intervention, while *34% less* traditional HPs thought biomedical HPs were "good people" (Kaboru et al. 2008: 115). In an attempt to maintain optimism, the authors appear to focus on the more positive findings while downplaying the more negative ones that need to be theorized further. A subtle form of co-optation seemed to be occurring, as referrals by traditional to biomedical HPs doubled after the intervention, while those from biomedical to traditional HPs remained nonexistent (Kaboru et al. 2008). These contradictory findings continue to reflect the observation that biomedical recognition of TM is couched within a limited recognition of the actual clinical effectiveness and worth of TM knowledge.

The targeting of traditional HPs by foreign development planning has been shown by anthropologists to cause more harm than good, despite "good intentions." As Pigg (1995) has shown, the category of "traditional HP" can be a Western creation imposed upon various communities with community healers, with the effect that this new category becomes foreign to the community itself through Western misinterpretation and reification of community concepts. At the same time as the

traditional HP category is created and appropriated from a community tradition, traditional health knowledge is devalued in a subtle and yet direct way. As Pigg explains, in Nepal:

> Local ideas and practices thus enter into development planning as something to be scrutinized and judged, while the medical message is presented as unassailable. There is little scope for dialogue or an exchange of ideas. Information flows from biomedical obstetrics to Nepalese women, but not from Nepalese women to cosmopolitan obstetrics. The training programs reinforce an asymmetry between the ideas and practices of the trainees and medical knowledge, despite calls to listen to the midwives themselves (Pigg 1995: 56).

Establishing Policy Solutions for TM in Global Health?

Although there are many challenges ahead to re-positioning TM as an essential health resource in international health, it is useful to consider a different approach that might be taken in the future. We propose that at the outset, TM must be considered on its own as legitimate and coherent systems of locally embedded healing knowledge with relevance to the local communities in which it is used. Although this stance does not preclude its wider application to global populations (e.g., the use of the TCM herb *Artemisia* for malaria), TM can be most effectively used at the community level in which it originated and is practised. While TM is certainly not a panacea, substantial areas of health and wellness can be maintained with its use, as noted above. TM also has the inherent strength of being able to work with or alongside other health measures and does not need to be altered by a biomedical agenda. For example, modified and culturally sensitive public health measures such as clean water, effective housing and shelter and access to viable food sources form an ecological system that promotes the efficacy of TM and the health of communities in which it is practised. Evidence already exists demonstrating that when TM is altered and/or synthesized for its component parts, not only does it become less effective, it also contradicts the bio-ethical tenet of non-maleficence by causing increased harm in patient populations (that is, increased side effects and/or pathogen resistance, such as *artemisinin* for malaria).

Viewing TM as both legitimate and clinically effective health knowledge re-positions TM in ways in which it has not previously been widely viewed. For example, this perspective moves past a purely ethnographic viewpoint that classifies TM as only a cultural practice without clinical benefit. It also re-conceptualizes TM as having a healing benefit, not only as a vehicle for biomedical retraining. Some scholars are combining TM, activism and "ecological" perspectives in the development community. As Trickett explains:

> [A] new perspective is emerging that localizes interventions in specific sociocultural community contexts, focuses on how preventionists can collaborate with local citizens and organizations, and locates specific interventions in the context of a long-range strategy for community development. Here the emphasis is increasingly on the sociocultural community context, drawing attention to those extra-individual forces and resources which affect the lived experience in communities.… The goal of the perspective involves impact at the community as well as individual level. The task is to design interventions which both aid populations at risk and contribute to the development of community resources for longer-range local development. Such longer-range resources can include preventive interventions self-consciously designed to leave a community infrastructure in place when the specific intervention has run its course. They may involve creating new community settings designed to serve hard-to-reach populations. Resources are also created when the skill level of local citizens recruited to carry out preventive interventions is enhanced (Trickett 2002: 158–9).

Trickett (2002) proposes movement away from macro-level international health campaigns toward ecological community-level interventions that directly address community issues by engaging community context and create interventions by enhancing local resources (but without changing

or appropriating them, as Pigg [1995], has cautioned).

Thus, the best way forward could be to forge partnerships between traditional HPs who practice TM and biomedical HPs associated with international primary healthcare projects. Policy makers such as Kaboru et al. (2006) have already imagined how partnerships could operate, despite these professional patterns of interaction having yet to be implemented in many areas of the world. For example, Kaboru et al. argue for the clinical education of both traditional and biomedical HPs in each other's basic knowledge and/or respective paradigms in a way that does not alter or take away the knowledge of traditional HPs, nor does it give biomedical HPs a monopoly on patients. Modified degrees of international policy intervention could also be implemented to recognize when an operational TM system requires little or no assistance from biomedical primary healthcare and, also, when biomedical HPs could be useful, based on community input. Many of these challenges and scenarios mirror developments in integrative medicine where biomedical and CAM practitioners are working together in the same clinic (see Hollenberg 2006, 2007). Although far from resolving the above challenges, IM in more industrialized healthcare settings and countries has identified ideals that while perhaps utopian include such concepts as "trust," "respect" and establishing a "seamless continuum of care."

It should also be re-emphasized that a handful of countries, as pointed out by the WHO, have established systems of TM and biomedicine that already work alongside each other and are at times approaching patterns of integration. For example, China has fully functional TCM–Western IM hospitals. Though there are advances here, even China has not escaped the effect of biomedical marginalization of TCM (see Unschuld 1998; Scheid 2002), pointing to the need to re-position TM as essential knowledge. In China, TCM knowledge is becoming viewed as inferior to Western science and technology. Certain TCM techniques are also being "modified," with as yet unknown side effects. Even TCM researchers in China are being forced to modify their research designs so that their research may be published in Western scientific journals (D. Cai, personal communication, July 1, 2007).

In sum, future TM policy should take into account the following: (1) TM must be evaluated using its own internally coherent systems of healing knowledge, in the context of community-level interventions, without being altered by biomedical techniques or theory that would make the TM system unrecognizable by the respective TM practitioner; (2) TM has inherent clinically effective and pragmatic health benefits, in addition to important symbolic and cultural meaning, which are linked together and at times inseparable from each other; (3) Traditional and biomedical HPs need to work together in a way that does not devalue and/or alter the inherent worth and clinical benefit of TM knowledge and does not give biomedical HPs a monopoly on patients when primary healthcare campaigns are implemented; and (4) wide-scale TM policy initiatives at institutional and governmental levels need to recognize the above and the ongoing effect of Western science on indigenous and/or traditional healing knowledge that is altering the fundamental theoretical tenets and practice of TM worldwide.

Conclusion

TM is often the first type of care sought by millions of people worldwide, though its place in the national and government-funded health systems of most countries is marginal, and its potential contribution to the well-being of patients and communities is under-appreciated and hardly recognized. New research continues to point to the value of TM in population and personal health, but the vastly dominant biomedical healthcare system and its providers continue to deny TM's widespread recognition and utility. It is possible that not adequately recognizing and ethically employing the strengths of TM over the last 30 years has now led to the widespread side effect of aid organizations not being able to meet their milestone goals of reducing morbidity and mortality in global communities (e.g., HIV/AIDS). For the sake of the vast number of people and communities impoverished around the world and their severe lack of professional biomedical services, it is

important to reconsider the place of TM in overall healthcare and begin to recognize its value for people worldwide.

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