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# *It Takes a Community to Quell an Epidemic: A Sociological Approach to AIDS*

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# ABSTRACT

The HIV/AIDS pandemic has been with us for over 35 years. Although it no longer holds a prominent place in the consciousness of Canadians, it continues to be on the agenda internationally with many billions of US dollars spent on programming to combat the pandemic. The dominant interventions promoted to curb the spread of HIV have been medical and psychological, focused at the level of individuals and combatting the pandemic one person at a time. Sociologists and other social scientists working in the AIDS arena have, instead, turned attention to networks, groups, communities, and social environments as sites of research and intervention. This presentation takes a sociological, community-oriented approach to curbing the spread of HIV using examples from my own research and that of colleagues working in diverse world locations.

# ABOUT THE AUTHOR

Dr. Maticka-Tyndale holds a PhD in Sociology from the University of Calgary. She is a distinguished university professor in the Department of Sociology, Anthropology, and Criminology at the University of Windsor and Associate Dean, Research and Graduate Studies in the Faculty of Arts, Humanities, and Social Sciences. Dr. Maticka-Tyndale's research focuses on sexual rights and citizenship especially among marginalized populations and HIV prevention. She has led or co-led 31 research projects with partners in Canada, the United States, Europe, Africa, and South and Southeast Asia. In her research, she uses a collaborative research model working with government, community-based and advocacy organizations, health units, and local and international non-government organizations. Her research has led to over 150 publications; development of HIV-prevention programming deployed over provinces, states, and entire countries; and has influenced changes in legislation, as well as in the delivery of sexual health services.

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**1. Introduction**

"It takes a village" was brought to the attention of western audiences when Hillary Clinton chose the phrase as a book title (Clinton, 1996). At the time it was signified as an African proverb. If you do a google search these origins still predominate. However, *it takes a village* appears in related form in multiple world regions. Why then did it seem so new when Clinton introduced it?

Our apparent ignorance to its existence and our general response to the adage as novel perhaps speaks not only to living in primarily urban, rather than village, environments but also to the individualistic enlightenment shift that is accentuated in neoliberal policies of responsibilization of the individual together with the post-modern focus on the vastness of individual diversities that dominate our thinking. Individuals, rather than communities, have rights and responsibilities; engage in risk behaviours and lifestyles; are responsible for their families (meaning nuclear families consisting of spouse and children), their own health, success or failure, for raising their children, and ultimately their fate. The village, community, extended family, clan are viewed as part of an outdated, pre-modern past from which we have evolved. The ethos of individual responsibility and paradigms of western medicine have been foundational to the research that has dominated approaches to the AIDS pandemic, the domain in which I conduct most of my research.

In the arena of AIDS research, individual characteristics and infection status are aggregated in the calculus of prevalence and spread by epidemiologists. Basic, laboratory scientists search for cures and vaccines. Psychological theories are applied to understand behaviours complicit in the spread and in the design and testing of interventions to change what have come to be called risk behaviours.

From laboratory research we have learned that HIV causes AIDS. We have discovered drugs that can suppress destruction of the immune system and drugs that can suppress HIV to the point that it is undetectable. From epidemiological research we have learned what the modes of transmission are (intravenous, sexual, or mother to child during birth and/or breast feeding); which modes of transmission dominate in different regions; and which populations are most affected. From psychological research we have learned about the influence of attitudes, knowledge, self-efficacy, and skills on risk reducing behaviors. These all focus on the individual.

The local contexts, social and cultural systems and environments are ignored or given mere passing notice. This means we are poor at answering questions such as:

- What drives intravenous spread?
- What is the social and cultural context of sexual activity?

If we look at what has been successful in reducing spread, it is most often community- and societal-level strategies that are built on an understanding of individuals as embedded within communities, with social and cultural systems setting possibilities and potentialities, social controls, responsibilities and expectations. Success comes from community ownership and involvement at all levels.

Before I go on, I want to pause for a moment to provide a brief overview of the global situation of AIDS today. I will then introduce the theoretical foundations on which I have built my work. Finally, I will draw two examples from my own research, to demonstrate how strategies and interventions built on

sociological frameworks – frameworks that actively involve social and cultural systems and communities – have contributed to reducing the spread of HIV in several distinctive places.

**2. AIDS in the Global Arena**

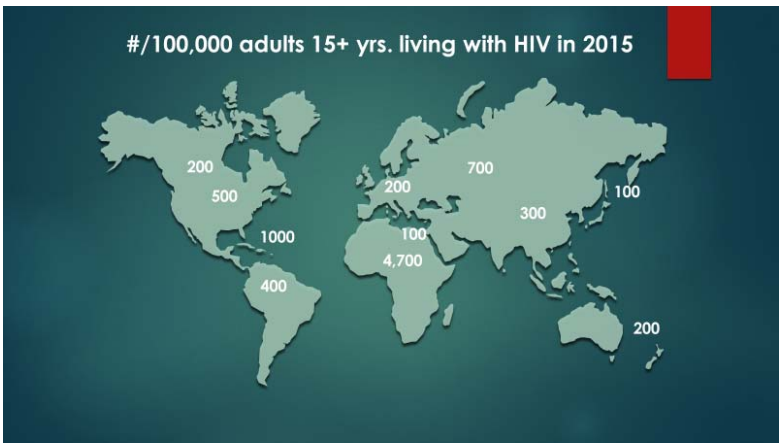
We have been aware of the presence of what we now call AIDS (acquired immune deficiency syndrome) since 1981, 36 years. The cause of AIDS was identified as HIV (human immune deficiency virus) in 1983.

In the early years, AIDS meant excruciating death. The first drug therapy, discovered in 1986, was only somewhat effective, for only some people, and only until drug resistance developed. The discovery of anti-retroviral therapies, announced in 1996, began a wave of discoveries of effective treatments. Today we have effective methods of treatment that have turned HIV into a chronic, treatable infection. Treatment can be so effective in lowering the presence of HIV in the blood stream that the likelihood of transmitting HIV to others is low; some would say non-existent. As a result, treatment is being offered as an important component of prevention. However, delays between infection and diagnosis, the large pool of people infected with HIV who are either unaware of their status or who do not have access to treatment or do not continue with treatment, means that we cannot rely on treatment to stop the spread of HIV. And, most recently, we have begun to see evidence of resistance to these anti-retroviral therapies.

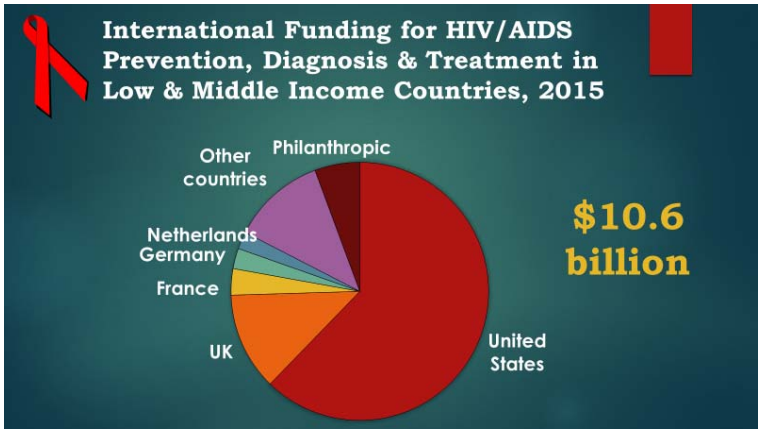
It is estimated that at the end of 2015, 36.7 m people were living with HIV globally. This translates to 8,000 of every 100,000 adults. The lowest rates are in the middle East and E. Asia followed by Europe, Canada and Australia. Our close neighbour, the United States, has a higher rate than South America and South and Southeast Asia. The highest rate is in subSaharan Africa where 4,700 of every 100,000 people are living with HIV. Of those who know they are infected, 77% are receiving anti-retroviral therapies (UNAIDS, 2016).

As you would expect, there are also variations within world regions. For every 100,000 people living in:

- the Caribbean the number infected ranges from 3,300 in Bahamas to less than 100 in Cuba;
- subSaharan Africa the number ranges from 100 in Cape Verde to over 23,000 in several countries of southern Africa such as Botswana and Lesotho;
- south and southeast Asia the number ranges from less than 100 in some countries to Thailand at 1,100 and Cambodia at 2,600.



Funding for prevention, diagnosis, and treatment in low and middle income countries (subSaharan African and much of Asia and Latin America) comes primarily from international donors. In 2015, this amounted to approximately $10.6 billion. Over 62% of this funding comes from the United States. Thus, it is not surprising that the direction taken in strategies and programming is heavily influenced by policies set in that country (UNAIDS, 2016). If we want to know about prevention initiatives – which is the area of my own work – we need to ask what is supported by the US government.

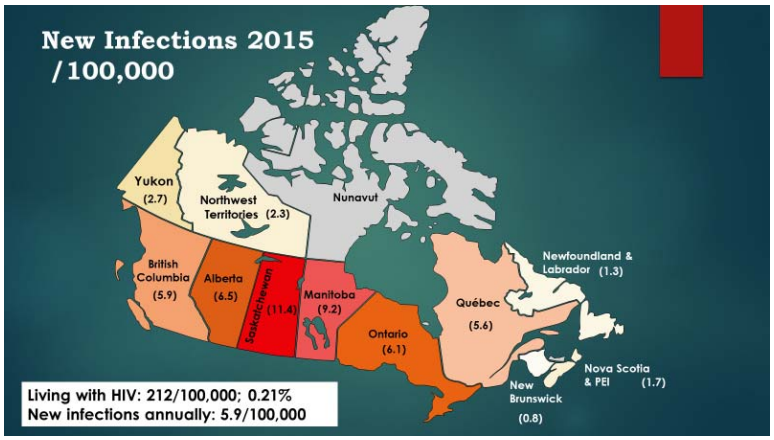



For prevention of sexual transmission of HIV there is the ABC model. Developed by the American Centres for Disease Control the ABC model for prevention has been the centre-piece to prevention programmes funded by the United States and has been endorsed by the World Health Organization (WHO) and UNAIDS. It focuses on the dominant mode of transmission globally – sex – and is a one-size-fits-all mantra where 'A' stands for Abstain from sex, or if not, then 'B', be faithful to a single partner, or if not, 'C', use a condom consistently and correctly in all sexual encounters.

On the ground, that is, in actual prevention programming, there is a strong focus on abstinence among those who are not married. In the United States this was seen in priority funding for what was called "abstinence education" in schools during the Bush presidencies. Internationally it is evidenced in a prohibition on promoting anything other than abstinence among the unmarried. While this changed during President Obama's terms, the abstinence focus is making a comeback under the Trump presidency. Condoms are only incorporated into programming with certain subgroups referred to as 'high risk'.

Research in Europe and Canada has clearly shown that the most effective strategies for reducing infections spread because of intravenous drug use include needle exchange programmes and safe injection sites. Both, however, are contrary to the United States' focus in its *War on Drugs* which sees these as condoning and promoting drug use. The infiltration of *War on Drugs* strategies into the mindset of Canadians, and especially Canadian politicians and lawmakers has made delivering these effective programmes problematic in Canada. As a result, despite the evidence, and court cases that have ruled safe injection sites legal, as of December 2016 there were only two safe injection sites in Canada, both in Vancouver.

How else does Canada fit into this picture? Canada, western Europe and Australia share relatively low levels of infection in their populations with diagnosis and treatment relatively widely available, usually without personal out-of-pocket spending. With a population around 32 million, it is estimated that 75,000 people, or 210/100,000 Canadians were living with HIV in 2015. One-quarter (25%) of these did not know they were infected. Since the year 2000, there has been a steady state of 2000 new diagnoses per year. The highest annual number of new infections per year was in 1996, with 2,700 diagnosed with HIV infection.




Rates vary across provinces. Looking at the number of new infections in 2015 for every 100,000 people in each province, infections were highest in Saskatchewan (11.4) and lowest in the Maritimes (ranging from 0.8 in New Brunswick to 1.7 in Nova Scotia and PEI). The rates are generally decreasing. For example, in 2010 the rate per 100,000 was 19 in Saskatchewan (Government of Canada, 2016). In comparison, for the United States, with a population of 292 million, there are 1.2 m people living with HIV. This converts to 410/100,000 or about twice as high as Canada (UNAIDS, 2016).

Using the Public Health Agency of Canada categorization of cases by the source of infection. Canada-wide, 50% of infections are found among men who have had sex with other men, 30% among men or women who have had what is referred to as heterosex (men with women or women with men), just over 15% the result of nonmedical use of intravenous drugs. This distribution varies by province. Saskatchewan, for example, has the largest proportion of cases resulting from intravenous transmission at 71.4% of those infected. These cases are primarily among Aboriginal peoples. Although First Nation and Métis are 16% of the population, they represent 80% of new cases.

**3. My Research**

My own HIV-related research focuses on prevention of sexual transmission. My research career started in the 1970s and ‘80s with research on youth sexuality and sexual health. When AIDS came along I got pulled into studying prevention of sexual transmission among youth and especially youth in communities of newcomers to Canada. In the early 1990s this began leading to invitations from groups in other countries: First Thailand in 1991, then Kenya in 2001, followed by other countries in subSaharan Africa as well as partnerships with European teams working there and on several task forces hosted by WHO, UNAIDS, and the Pan American Health Organization. Back home, here in Canada, I continued doing research with communities of Canadian newcomers.

**4. What Guides My Work?**

Arthur Kleinman, a Harvard psychiatrist and anthropologist has been the primary influence on how I view working in and with communities in diverse corners of the globe. I must confess, Pitirim Sorokin was given, at best, only passing notice in my education. Clearly my undergraduate education at SUNY Binghamton and my graduate education at McGill and Calgary were deficient. Given my ignorance, I decided I needed to learn more about Sorokin's sociology.

Two themes from Sorokin's work speak directly to my own: The centrality of norms, meanings and values to understanding individuals and societies and his call to sociologists to shift from a focus on studying negative or deviant behaviour to resilience. This latter call led to Sorokin's interest in altruism and, more specifically creative altruism. Sorokin speaks most directly to my own work in his book *Man and Society in Calamity: The Effects of War, Revolution, Famine and Pestilence Upon the Human Mind. O*riginally published in 1942 it has been described as one of the first sociological studies of emergencies or crises. Sorokin theorized the course of calamities in different cultures and the changes in social and cultural systems that result from calamities. He concluded that there is no single standard response to a crisis either at the individual or societal level.

Of particular interest to me is Sorokin's description of societal-level effects of calamities. He documented the destruction or profound changes in most institutions, population migrations to escape the calamity, how calamities permeate sociocultural life and become the focus of science, religion and art and how they lead to an expansion of government regulation. I have seen all the responses enumerated by Sorokin in my work on HIV and AIDS, with each playing out differently in different cultures.

For Arthur Kleinman, our response to and the consequences of crises are closely tied to the moral order (Kleinman, 1978; 2007). By moral order Kleinman means *what matters most. C*onsequently, *moral behaviours* are those that fit with *what matters most* at a particular time, place, or culture, and immoral behaviours are those that threaten *what matters most.* Let me provide two examples:

> In a society where mortality rates are high – survival is dependent on a high birth rate – the fecundity of females (and virility of males) is what matters most with respect to sexuality. Premarital sex and pregnancy are likely moral, and producing progeny – as many as possible – may be required to maintain a marriage. In such a moral order, using a condom is immoral and there are myriad beliefs supporting the necessity of sexual activity and extolling the dangers of condom use. This is the case in much of subSaharan Africa.
>
> By contrast, in a society whose future is threatened by overpopulation, limiting population growth is what matters most with respect to sexuality. Consequently, control of the number of children born to each couple is part of the moral order. Typically, marriage is late, premarital sex is staunchly forbidden having more than one child is both immoral and punished and permanent forms of contraception (e.g. tubal ligation and vasectomy) may be required. We saw this in China under the one-child regimen.

*What matters most* is foundational to social and cultural systems, to what constitutes a crisis, to how individuals and societies respond to crises, and to its impact.

The moral order is connected to how and how much each of three domains of knowledge influences individual and societal approaches to a crisis. These can be portrayed as three circles that overlap to greater or lesser degrees. First is the professional or authoritative domain. In issues of health this is medical science and institutions. The ABC model was developed by and its credibility rests on organizations such as the US CDC (Centers for Disease Control) or the WHO (World Health Organization) or UNAIDS, organizations that are considered authoritative sources of science-based knowledge and recommendations. Second is the domain of community and reference group-based knowledge. This domain influences how we interpret the knowledge that comes to us from professionals. In several countries in Africa, community leaders say condoms spread HIV because they are part of a western campaign to wipe out Africans. This alternative truth about condoms negates any confidence in recommendations from authorities to use a condom to prevent HIV. Whether you act on the advice of professionals or community and reference group may depend on which best fits with the moral order. If part of what matters most is following evidence gleaned from research, then authoritative sources are prioritized. If part of what matters most is trusting the experiences and direction of your community and peers and being skeptical of what are often termed 'outside' professionals and authorities or elites, then they take precedence. Finally, there is the folk domain of long-standing traditions and customary knowledge, and beliefs. This may be founded on religion or a traditional or habitual way of doing things or interpreting reality. Here we hear explanations such as:

> This is the way we have always done it.
>
> If the rains don't come it is because we have angered the gods.
>
> HIV infection happens because a shaman or witchdoctor has cast a spell on me.
>
> Fate or god determine my future.

Each of these circles or domains is a source of knowledge, interpretation, and direction setting. The greater the overlap between circles, the more likely it is that knowledge, interpretation and direction setting is drawing from the overlap in a way that serves the moral order. The less the overlap, the more conflict there is between different kinds of knowledge and the greater the likelihood of inaction.

Common to Kleinman and Sorokin is a focus on community, society, and culture. Epidemiological profiles, psychological theories of individual behaviours and the ABC models that dominate the field of HIV prevention need to be placed into a local context that includes social and cultural systems for Sorokin and the moral order and different professional/authoritative sources, community and reference-group, and folk sources of knowledge and normativities for Kleinman.

**5. Examples from Research**

I will use two of my projects to illustrate how a focus on communities can produce strategies that are effective in lowering infection rates.

<u>Thailand</u>

In 1991 I received a phone call from a representative of the president of the national council of women of Thailand asking me to come work with them on developing programmes and strategies to reduce the

vulnerability of rural Thai women to HIV infection. In 1990-1991 the estimate was that 12.5% or 12,500/100,000 were living with HIV in Thailand. One of the highest rates of infection in the world.

HIV spread to Thailand through travel and tourism and then throughout the country primarily through heterosexual contact. In collaboration with the US government and WHO, the Thai government identified men and female sex workers as high-risk groups for HIV infection and prioritized them for prevention campaigns. The National Council of Women argued with the government that if men were at high risk, then married women were at risk as well and should also be prioritized. The government rejected this notion, saying that 'ordinary housewives' (yes, that is the phrase they used) were at low risk. The Council was particularly concerned about rural women since they would not be exposed to any of the media campaigns that were increasingly visible in the cities. My collaboration with Thai partners included research conducted by teams of local students and community health and development workers who administered surveys (as face-to-face structured interviews); conducted semi-structured interviews with rural women, community leaders, and key informants; and village meetings. The research was done in rural communities across Khon Kaen province in northeast Thailand, a region of the country that was 'off the beaten track' in terms of the reach of international researchers or development organizations (Maticka-Tyndale, Haswell-Elkins, Kuyyakanond, Kiewing & Elkins, 1994).

What we learned was that the primary source of risk to 'ordinary housewives' was the practice and widespread endorsement of men having multiple sex partners. This was rooted in a history of polygyny and concubinage (Maticka-Tyndale, Kiewying, Kuyyakanond, Haswell-Elkins, et al., 1994). Although polygyny was no longer practiced, the acceptance and even expectation that men would have multiple sexual partners predominated and was institutionalized in a variety of ways.

There were rules, however: (1) don't squander your money so the livelihood of your family is threatened; (2) be discreet – your wife should never be shamed, and should never have to directly face this; (3) your family and marriage come first, they should never be threatened; (4) your wife is always in first place (Maticka-Tyndale, Elkins, Rujkorakorn, Kuyyakanond & Stam, 1997). The Buddhist notion of karma meant you accepted your fate, the life you had been born to. Also embedded in Thai Buddhism was the notion that a cool, calm temperament and approach to life and adversity is preferred. Buddhism and the history of Thailand brought a great respect for authority – especially the authority of the King and whatever he endorsed. This made it possible for the Thai government to implement policies with little opposition.

Festivals abound (perhaps best known is Song Kran or new year). This includes local as well as regional and national festivals. Theater, improvisation, stories and competitions are part of festivals with virtually every village having its own maw lam or theater group. These provide an indirect way to communicate important lessons, often about topics that are otherwise considered unspeakable.

The *moral order* related to sexuality was then: family and marriage mattered most, male promiscuity also mattered but this was set within the norms for maintaining the family and marriage. A cool, accepting approach was valued and paid attention to. Difficult ideas and dangers were not spoken of directly, but rather through drama and stories.

Working with local drama groups we created a four episode soap-opera-style radio drama that was broadcast weekly on a popular radio show and broadcast in rural villages over loudspeakers. The stories of three sisters were told. Each sister and her marriage was a prototype of a stereotypical personality and marriage repeatedly conveyed to us in interviews. Each sister dealt with the threat of HIV differently. The radio dramas became 'the talk of the town,' opening local dialogues about HIV. They were so popular that they were repeated seasonally for several years. Even after they ceased being broadcast they continued to be told like a favourite tale that doesn't seem to dull with the telling. Maw lam troupes took up the challenge of building on the radio drama in local performances, with competitions between troupes from different villages for the best HIV story (Maticka-Tyndale, Haswell-Elkins, Kuyyakanond, Kiewying & Elkins, 1994).

Combined with government programmes providing free condoms and promoting condom use, the local dramas facilitated discussions at village meetings to develop local initiatives to support condom use by men in their recreational sexual encounters. Each village developed its own approach to the threat of HIV. Some villages had condom distribution points at local transit stops; some developed initiatives that would appeal to youth and teach them how to use condoms (Dole, Elkins, Boonyear, Phiensrithom & Maticka-Tyndale, 1998; Elkins, Dole, Maticka-Tyndale & Stam, 1998; Elkins, Kuyyakanond, Maticka-Tyndale, Rujkorakam & Haswell-Elkins, 1996; Maticka-Tyndale, Elkins, Rujkorakorn, Kuyyakanond & Stam, 1997).

Strong government leadership in a country where there is general confidence and respect for authority combined with initiatives such as the one described here contributed to a momentous reduction in HIV rates (Elkins, Maticka-Tyndale, Kuyyakanond, Kiewying, Anunsomteerakul, Chantapreeda, Choosathan, Sommapat, Theerasobhon & Haswell-Elkins, 1997; Elkins, Maticka-Tyndale, Kuyyakanond, Miller & Haswell-Elkins, 1997). From infection rates as high as 12.5% of the population or 12,500/100,00 people to 1.1% living with HIV or 1,100/100,000.

Kenya

I want now to turn to an example from subSaharan Africa, one that illustrates working with Kleinman's three domains of influence. This began again with a phone call in November 2001. Someone I had worked with in Thailand was now in Kenya asking if I would come to Kenya to work with an NGO (Centre for British Teachers, now known as *Cf*BT) working with the Ministry of Education to develop and evaluate an AIDS education programme for delivery in schools. The Ministry had tried to get a sex education program into the schools in the 1990s and failed because of major opposition from religious organizations, village and ethnic leaders.

HIV prevalence in Kenya was 10.5% with the epidemic deeply rooted in the general population. As in Thailand, the primary mode of HIV transmission was through heterosex. The task was to develop a program that could be delivered in the upper grades (6-8) of all primary schools, was acceptable in communities, and could be delivered in the lowest resourced settings, with a model to train teachers in the approximately 18,500 primary schools.

By the year 2000, school-based programmes had become a popular way to reach youth in subSaharan Africa (see Gallant & Maticka-Tyndale, 2004 for a review and synthesis of school-based programmes in

subSaharan Africa). However, evaluations of these programmes had shown little success in achieving goals of increasing knowledge, opening conversations, or shifting attitudes toward those that valued preventing HIV infection. Many produced the desired outcomes when delivered in controlled research settings. But when they were delivered in regular schools, incorporated into the ordinary school day, with teachers trained and then left to teach in the usual manner, programmes failed. This has been described as the difficulty of releasing a fish raised in a fish bowl into a river. When delivered in the real-world environment of schools, portions of programmes were left out either because teachers were uncomfortable or communities opposed them or HIV lessons were sacrificed to more important subjects. Reviewing these poor results from Kleinman's and Sorokin's perspective, they were unsuccessful because they did not recognize the school as part of a community and teachers, as well as students, as members of that community. They ignored local contexts such as:

- how sexual transmission of HIV was influenced by what mattered most related to sexuality;
- that teachers were community members influenced by the local social and cultural system as much, or perhaps more so, than the students were;
- how the educational system worked;
- the culture of distrust of external authorities.

With this knowledge in hand, the Kenya project began with meetings at multiple levels: with government ministries, the funding agency (Department for International Development, UK or DFID), teachers and the teachers' union, villages, leaders (traditional and religious). Roles and lines of responsibilities of everyone involved in the project were established. This was a Kenyan run project – I was the only 'outsider'. My role was specific and limited to bridging the demands of DFID for 'scientifically rigorous' research to justify the millions of British pounds that would be spent on a national programme, the conduct of the research, communities, and the Ministry of Education.

We used an Action Research model and mixed methods of data collection – much as I had used in Thailand. Action research is based on a process where research followed by analysis, reflection, and modification which is followed by action with these forming a dialectical relationship of a continuous quality improvement. This can be drawn as an open spiral that is sensitive to emerging issues that must be taken into consideration in both the research and the action.


What we learned from the research was that within the moral order of youth sexuality, sex is mundane – no big deal – and 50% of the youth (aged 11-17 years) in our sample were sexually experienced. Sex is

inevitable – youth spoke of their biology forcing them (both sexual desire and reproduction), friends forcing them (physically and psychologically), their parents, relatives, and community leaders forcing them through expectations. Sexuality is gendered. The primary reason girls and women had sex was to get things. Some were sent by their mothers to get food, or they had sex because they wanted special treats, to get pregnant, or to insure they would be able to get pregnant in the future. The primary reason for boys and men was because they were driven by biology to need sex – without it their health would suffer, and for young men their future virility would be threatened. Finally, sex insures your future -- sex at a young age was necessary to insure future fertility or virility (Maticka-Tyndale, Gallant, Brouillard-Coyle, Metcalfe, Holland, Wildish & Gichuru, 2005; Maticka-Tyndale & Kyeremeh, 2010; Tenkorang & Maticka-Tyndale, 2008). We also learned that schools and churches were the centre of the community. They were built and maintained by communities, people congregated in their schools and churches for meetings, and the community was involved in what went on in them. There was a distrust of external authority. Something coming from the top was automatically suspect; but there was deference to local authority – local religious leaders, chiefs, elders, senior women (Luginaah, Maticka-Tyndale, Kairi, Wildish & Brouillard-Coyle, 2007). In contrast to the cool way of living life and handling conflicts in Thailand, a hot personality and response was more valued and common. I was often told that we needed to take note of the temperature. If things got too heated we needed to quickly extract ourselves since violence was likely close behind.

The moral order for youth sexuality can be summarized as: sex is mundane or ordinary, inevitable, and for a gendered purpose; there is a future orientation most often expressed in terms of future fertility or virility; local norms prevail, and there is a deference to local authorities.

There were contradictory and conflicting messages emanating from each of Kleinman's three domains. At the authoritative level, the Ministry of Education insisted that only abstinence be included in the official school curriculum. The Ministry of Health, however, officially promoted condom use and teaching about condoms, but they were reluctant to enter schools or speak to youth. Condoms were typically promoted in the media, but these were accompanied by conspiracy theories: the condoms that were sent to Kenya were said to be 'expired', already used, or manufactured with the HIV virus inside them. Church leaders encouraged youth to "trust Jesus, not condoms." In the community domain, community leaders were overwhelmed. Illness and AIDS deaths permeated community life. They had heard about anti-retroviral therapies and advocated for international attention to providing treatments rather than school programmes. Friends, especially among boys, encouraged protection either through the use of condoms or through 'homemade solutions' such as using plastic bags as condoms or washing and reusing condoms. In the domain of local beliefs and traditions, using a barrier to keep semen from entering a woman or interfering with skin-to-skin contact was viewed as unnatural and potentially dangerous to both men and women (Maticka-Tyndale, 2012; Maticka-Tyndale & Kyeremeh, 2010; Maticka-Tyndale & Tenkorang, 2010).

We shared research results with the funding agency, ministries of education and health, teachers, and at local village meetings. The statistics on sexual activity provided justification for addressing more than abstinence. And the quotations from focus groups and interviews provided the voices of youth – voices which adults often confirmed they had heard but not paid attention to.

We negotiated messages for the educational program. For condoms this meant they still were not incorporated into classroom lessons. But each school had an anonymous question box with teachers, community health workers, and youth trained as peer educators providing answers at school assemblies. Invariably youth asked about condoms and it was agreed that these questions would be answered based on 'facts' provided by the Ministry of Health. The curriculum was ministry determined but allowed for local modifications: teachers were taught to develop their own lesson plans and to adjust and modify them to fit local situations and their own best teaching style. Adjustments were made, for example, in the communities with large numbers of AIDS orphans, communities that were cross-roads market and had men traveling through who offered favours to school girls in exchange for sex, in fishing villages where girls were sent by their families to purchase fish with sex (Maticka-Tyndale, Wildish & Gichuru, 2007).

The teacher-training model based on local training and teaching practices, expanded to include parent representatives and religious leaders to insure the community knew and felt in control of the programme (Maticka-Tyndale, Wildish & Gichuru, 2007).

We increased the overlap among Kleinman's three domains and reduced the conflict both within and between them. We stressed the future; youth protecting their future by staying safe from HIV infection. Testing and treatment for HIV became more widely available during this time and became a segue into talking about condoms. The availability of testing and treatment increased community trust.

While the Ministry of Education still focused on 'A' (abstinence) in the official curriculum, the door was opened to talking about testing and condom use. Community and peers cared little about abstinence, but making anonymous question boxes available to community members together with testing and treatment in communities began to build trust in the ministry's programme. Traditional messages about condoms were still problematic, but again, testing and condoms for those who tested positive became a compromise.

Recall that when we began this initiative, of every 100,000 people in Kenya, 10,500 were living with HIV. Government leadership and initiative to push for HIV education in every school in the country were essential to bringing down the infection rate (Maticka-Tyndale, Wildish & Gichuru, 2007). Expanded testing and anti-retroviral treatments increased trust and confidence in authorities as communities felt they were not being ignored. The school programmes – especially given the centrality of schools to communities – laid a foundation for other prevention work. They opened conversations between children and their elders as well as across the community. Communities embraced the school programmes and those that were not in the initial research group lobbied and hotly pursued having programmes expanded to their communities with the District Education Officers. The success of the programme and the strength of the community advocacy combined with plans brought forward by community leaders to spread the teacher training to other locations at a reduced cost led to a faster roll-out of the school-based HIV education across all primary schools (Maticka-Tyndale, 2010; Maticka-Tyndale, Wildish & Gichuru, 2010; Tenkorang & Maticka-Tyndale, 2013). The rate of infection has reduced appreciably with a 44% reduction in the number of people living with HIV in 2015 compared to 2001.

Canada

I want to briefly bring our attention back to Canada, and specifically the crisis of HIV infection among IDUs, the group most affected here in Saskatchewan. Saskatchewan's high rate of HIV infection and particularly among first nations populations and IDU users may seem overwhelming. But it isn't impossible to overcome. Twenty to twenty-five years ago BC was both the epicentre of the HIV epidemic in Canada and the epicentre of infections due to intravenous drug use. The provincial government's declaration of a medical emergency, community activism, and a massive infusion provincial funds led to a multi-modal approach to reducing infection rates. Research grounded in communities where IDUs were concentrated produced community relevant programming directed at reducing HIV transmission through needle use. The most well-known programming is Vancouver's safe injection sites which required court challenges to federal drug laws in order to stay open. This led to a substantial reduction in diagnoses among intravenous drug users rom 352 in 1996 to 29 in 2012. Partnerships across sectors and attention to the local context have been the strongest foundations for building strategies to address the spread of HIV.

**Closing Thoughts**

I began the example of Kenya by referring to other school-based programmes that were unsuccessful, not because of flaws in the programme but because they could not succeed in the 'real world'. This schism is seen repeatedly, not only in the world of AIDS but also in many areas of programme delivery or policy implementation. What looks good on paper, what is developed based on sound theory and evidence in one setting, doesn't work, or, worse yet, backfires and makes situations worse, when rolled out or delivered in another setting or the real world.

If we return to Sorokin and Kleinman we recognize that this is usually because the local context has not been adequately considered. It has not been part of the planning or design of the policy, programme or intervention. This is particularly salient when dealing with a global crisis for, as Sorokin points out, the response and the consequences will not be the same in all countries or regions. The contexts are not the same. And, to understand either individual or societal responses and consequences we need to consider the interconnections between the diverse institutions and systems that comprise a society. This was evidenced in the examples from Thailand and Kenya where it was the combination of complementary initiatives of government together with those developed within the context of local communities that had a demonstrated influence on reducing the spread of HIV. It is also evident in programming in Canada such as British Columbia's approach to its epidemic among IDUs.

None of these examples, however, have provided what might be called the ultimate solution – AIDS hasn't been eliminated in any country or region. And for large-scale initiatives, neither can we know to what degree each component had an influence on reducing the spread of HIV. Each is only one part of multiple initiatives implemented by governments, non-government organizations large and small, and local communities which collectively influenced rates of infection. I suggest that is precisely the message supported by both theorists. Societies are complex. Crises affect all levels and parts of a society. Individuals and individual behaviours are also affected by the full array of social and cultural systems in societies and, in today's world, by global interconnections. To address a crisis requires an approach of creative altruism.

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