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## **DOCTORAL THESIS**

### **HIV/AIDS as a non-traditional security threat in China's marginalised and mobile populations: The shortfalls and challenges**

Parkinson, Shelley

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**Bond University**

**HIV/AIDS as a non-traditional security threat in China's marginalised and mobile populations: The shortfalls and challenges**

**Faculty of Humanities and Social Sciences**

Principal supervisor: Associate Professor Jonathan Ping

Associate supervisor: Dr Stuart Murray

Advisor: Dr Anna Hayes (James Cook University)

**Shelley Torcetti**

Submitted in total fulfilment of the requirements of the degree of Doctor  
of Philosophy

## **Abstract**

HIV/AIDS presents a non-traditional threat to security globally. It has been recognised as such by the UN Security Council and has been the topic of continuing debate within security scholarship. Global best practice in HIV/AIDS epidemics has identified that key populations need to be the focus of HIV/AIDS responses in order to halt the further spread of HIV. This thesis considers three key populations in China, female sex workers, people who inject drugs and floating migrants, due to their high mobility and marginalisation. Their mobility and marginalisation pose significant challenges for HIV/AIDS prevention and education programs. As a result they often suffer from stigmatisation and a lack of human security resulting in sub-optimal outcomes for HIV/AIDS interventions. This insecurity directly contributes to, among other things, high attrition rates in treatment programs; high mobility; stigmatisation; marginalisation; insufficient nourishment (deemed important for sustained ART); lack of shelter; and lack of financial resources necessary to initiate ART. This thesis considers HIV/AIDS in China and whether the shortfalls and challenges in China's national response to HIV/AIDS may be mitigated by addressing HIV/AIDS as a threat to the human security of people living with HIV/AIDS and the nation-state as a whole. Thus this thesis corroborates and expands upon existing literature supporting human security frameworks in HIV/AIDS epidemics. Additionally, it identifies emerging trends that make it paramount for China to address the existing shortfalls in its HIV/AIDS programming by adopting a human security framework.

## **Declaration**

This thesis is submitted to Bond University in fulfilment of the requirements of the degree of Doctor of Philosophy. This thesis represents my own original work towards this research degree and contains no material which has been previously submitted for a degree or diploma at this University or any other institution, except where due acknowledgement is made.

Signed: \_\_\_\_\_

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## **List of Acronyms**

<b>AIDS</b>	Acquired Immunodeficiency Syndrome
<b>ARV</b>	Anti-Retroviral Drugs
<b>ART</b>	Anti-Retroviral Therapy
<b>AUSAID</b>	Australian Government Overseas Aid Program
<b>CBO/s</b>	Community Based Organisation/s
<b>CDC</b>	Chinese Centre for Disease Control
<b>CMOH</b>	China's Ministry of Health
<b>CRF/s</b>	Circulating Recombinant Form/s
<b>CSWs</b>	Commercial Sex Workers
<b>FSWs</b>	Female Sex Workers
<b>FPD/s</b>	Former Plasma Donors
<b>GBP</b>	Global Best Practice
<b>HAARP</b>	HIV/AIDS Asia Regional Program
<b>HIV</b>	Human Immunodeficiency Virus
<b>HIV+</b>	HIV-positive
<b>HPV</b>	Human Papilloma Virus
<b>IDU</b>	Intravenous Drug Use
<b>ILO</b>	International Labour Organisation
<b>INGO/s</b>	International Non-Governmental Organisation/s
<b>MDGs</b>	Millennium Development Goals
<b>MMT</b>	Methadone Maintenance Treatment
<b>MSM</b>	Men who have Sex with Men
<b>MTCT</b>	Mother to Child Transmission
<b>NSPs</b>	Needle-Syringe Programs
<b>NGO/s</b>	Non-Governmental Organisation/s
<b>OI</b>	Opportunistic Infections
<b>PLWHA</b>	People Living with HIV/AIDS
<b>PRC</b>	People's Republic of China
<b>PrEP</b>	Pre-Exposure Prophylaxis
<b>PEP</b>	Post-Exposure Prophylaxis
<b>PWID</b>	People Who Inject Drugs

<b>SARS</b>	Severe Acute Respiratory Syndrome
<b>SIV</b>	Simian Immunodeficiency Virus
<b>SIVcpz</b>	Simian Immunodeficiency Virus Chimpanzee
<b>SIVsm</b>	Simian Immunodeficiency Virus Sooty Mangabeys
<b>STIs</b>	Sexually Transmitted Infections
<b>TasP</b>	Treatment as Prevention
<b>TG</b>	Transgender
<b>UN</b>	United Nations
<b>UNAIDS</b>	Joint United Nations Programme on HIV/AIDS
<b>UNICEF</b>	United Nations Children's Emergency Fund
<b>UNDP</b>	United Nations Development Programme
<b>UNODC</b>	United Nations Office on Drugs and Crime
<b>URFs</b>	Unique Recombinant forms
<b>WHO</b>	World Health Organisation

## **Introduction: Thesis overview**

*A mountain cannot turn, but a road can.*

山不转路转

### **Introduction**

Within China there are groups of people living on the fringes of society. They are difficult to reach and often live in fear, not only of arrest but of the inimical reactions of those with which they come into contact. These groups operate as separate entities but are paradoxically entwined with each other and the population as a whole. They are commercial sex workers (CSWs) (*xing gongzuo zhe*), people who inject drugs (PWID) (*zhushhe xidu zhe*), and China's "floating" or undocumented internal labour migrants passing between provinces within China (*liudong renkou*), and they constitute key populations in the spread of Human Immunodeficiency Virus/Acquired Immunodeficiency Syndrome (HIV/AIDS) and other communicable diseases in China. The high mobility and marginalisation of these groups pose significant challenges to the implementation of HIV/AIDS programs and as such they not only suffer from a lack of security but also constitute a non-traditional security threat to China and its proximate nation-states. This thesis identifies HIV/AIDS as a non-traditional security threat, and in particular a threat to human security, within these groups in China's Yunnan province.

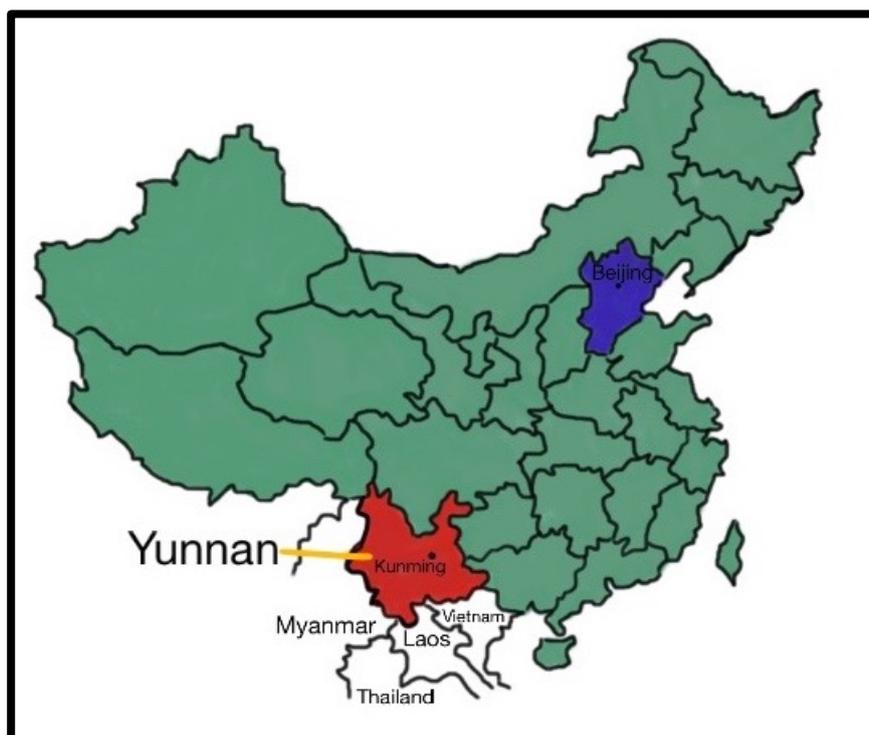
Yunnan is located in South-western China and borders Myanmar, Laos and Vietnam. Yunnan has been selected as the site for this analysis due to its high percentages of HIV/AIDS infection; and its geographic propinquity to other states and the drug production and trafficking areas of the "Golden Triangle". The golden triangle is a major opium/heroin production area spanning the mountainous areas of Myanmar, Thailand, Laos and Vietnam. It is close to the borders of Southern China and maintains major drug trafficking routes throughout China's Southern provinces, including Yunnan. These factors contribute to high rates of intravenous drug use (IDU), commercial sex work and labour migration in this site.

Within Yunnan, cross border trade and travel between the ethnic minorities in China and bordering countries is common (Lu et al., 2008). Unfortunately, while there is cross border trade in legitimate goods and services, there is also an illegal trade in drugs and women for both the sex industry and sold into coerced marriages with Chinese men (Bélanger & Hong

2005; Qian, Schumacher, Chen & Ruan, 2006; Zhao, 2003). Significantly, Yunnan's close vicinity to its neighbours and the movement of ethnic groups straddling porous political borders allows for the diffusion of HIV in and out of China (see pages 2 & 3, maps 1 & 2), as disease crosses borders along with the migration flows of people from one locality to another. Infectious disease, in this case HIV/AIDS, threatens states not only due to a reduction in labour force owing to illness or death but also due to the high costs associated with the treatment, prevention and education programs targeted at reducing the impact of the disease on communities.

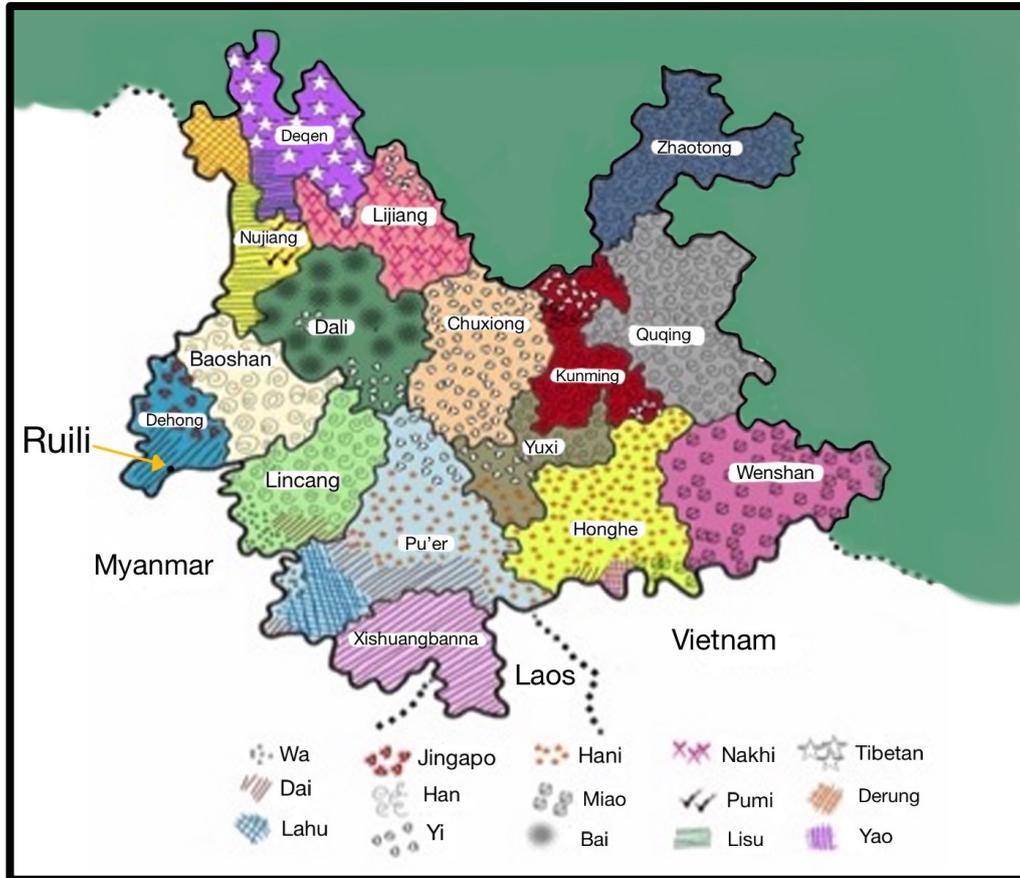
In addition to the preceding rationales for locating the research in Yunnan, China's first HIV/AIDS outbreak among PWID was identified in 1989 in the border town of Ruili (Jia et al., 2010). Moreover, Yunnan was not only the first to report an outbreak of HIV; it also has China's highest percentage of people living with HIV/AIDS (PLWHA) in the groups being researched (Qian et al., 2006). These factors make it an appropriate region for this research. In the field of epidemiology "patient zero" is of paramount importance in discerning the spread and treatment of a disease. Likewise, Yunnan is "ground zero" for China's HIV/AIDS epidemics and therefore invaluable for clearly understanding the spread of the virus throughout the nation-state.

**Map 1: Location of Yunnan Province China**



Source: Compiled by Author

**Map 2: Approximate Distribution of Ethnic Minority groups in Yunnan**



Source: Compiled by Author

### Thesis central questions

This research was constrained by specific questions that arose from current understandings and identified gaps in the relevant literature and contemporary knowledge. These questions centre on explorations of the vulnerability to HIV transmission faced by marginalised and highly mobile populations in southern China, the impacts of mobility on the spread of HIV/AIDS and how such migration poses a non-traditional threat to the security of the state and human security of individuals living with HIV/AIDS. Thus, the following key questions formed the basis of the research undertaken:

1. How have state and non-state organisations in China responded to the emergence of the HIV/AIDS epidemic within highly mobile, marginalised populations (cross border and internal population movement: CSWs, PWID, floating migrant populations) both historically and currently?

2. How effective are government responses to HIV/AIDS in Yunnan province? How effectively do they utilise NGOs and other stakeholders? How do they compare with global best practice? What are the shortfalls and challenges inherent in their practices?
3. Do China's official state practices endorse adopting a human security framework to conceptualise the HIV/AIDS issue? How does their conceptualisation of the issue influence their actions in responding to their HIV/AIDS epidemics?
4. Does the available evidence verify the necessity for human security discourse in addressing the HIV/AIDS epidemics in highly marginalised and mobile populations in China?

### **Project overview and significance**

This thesis analyses the expansion of HIV and problematic delivery of health and educational programs to the mobile populations in Yunnan (including those populations who cross international borders). It applies a human security framework to provide focused examination of HIV/AIDS rates among CSWs, PWID and the floating migrants in the region due to the high risk factors and increasing rates of infection in these populations. The findings of this thesis are significant to the field of International Relations as they further expand upon the existing knowledge and understandings of HIV as a non-traditional security threat and solidly identify HIV/AIDS as a source of human insecurity. Secondly, the thesis provides strong arguments for the relevance of contextualising HIV/AIDS as a human security threat in highly mobile and marginalised populations, identifying the potential ramifications of this non-traditional security threat to both human and traditional security.

Additionally, in researching the floating migrants this thesis provides valuable information to limited existing knowledge about the impact of HIV transmission among mobile populations, and the specific HIV vulnerabilities they face through high-risk behaviours such as drug use and soliciting CSWs. China's floating population is significant due to the large numbers (over 250 million) and China's internal registration system. Unlike international migrants, who cross borders between countries, the floating population moves in search of work opportunities within China. This is particularly the case for rural residents who are migrating into urban areas. They often do not change their provincial registration details and as such are considered undocumented, and therefore unable to access governmental services in their new area of location. Additionally, these migrants are likely to return to their place of birth during significant Chinese holidays, and in particular Chinese New Year, allowing for the further transmission of communicable diseases such as HIV. This is particularly significant due to

an inadequate response to the escalating epidemic in the Yunnan region, the transnational significance of this epidemic to both China and its regional neighbours, and the implication of these migrants in the changing transmission routes of HIV away from transmission via IDU into a sexually driven epidemic among key populations and the wider general population.

These three cohorts share a symbiotic relationship and are generally mobile due to the demands of the labour market or fear of arrest and incarceration due to the illegal nature of their activities (Pirkle, Soundardjee & Stella, 2007; Yi et al., 2010). Not only does the HIV/AIDS epidemic disproportionately affect these marginalised groups in both concentrated and generalised epidemics but they are often omitted from AIDS plans and face legal and structural barriers in accessing existing services (UNAIDS, 2011, p. vii). Health and prevention programs are thus difficult to deliver and implement in mobile populations due to their constant movement and often times illegal status.

Consequently, the ever-changing health environment resulting from the high mobility of these groups negatively impacts the efficacy and delivery of HIV programs currently offered. Therefore, this thesis will examine current government, non-governmental organisations (NGOs) and international non-governmental organisations (INGOs) education and prevention programs aimed at reducing the transmission of HIV/AIDS in these highly mobile populations. In addition to identifying the challenges of current HIV/AIDS practices in PLWHA populations this thesis also highlights some of the shortfalls of current PRC policies and their association with the PRC's lack of perception of HIV/AIDS as a human security threat.

### **Locating HIV/AIDS as a non-traditional threat to security**

Traditional concerns with security have focused on realism and state-centric Westphalian notions of sovereignty and the threats faced by nation-states due to military engagements from external sources. These realist ideas of security can be observed in Cold War type security dilemmas that use the threat of armed force, or non-military coercion in the form of political and economic sanctions, and consider nation-states as the most important actors (Alkire 2003; Dahl-Eriksen, 2007; Newman, 2010; Selgeild & Enemark, 2008). In International Relations, realism posits that people are at the core egotistical and selfish. In addition, the international system is viewed to be anarchic and within this setting, war is not only probable but acceptable. Finally, as proposed by realist thinker Hans Morgenthau,

international relations are thereby a struggle for power; and as a result, ethical considerations cannot govern the actions of a state (Donnelly, 2005). Although traditional security issues are still a dominant concern for states there has been a shift in thinking in the post-Cold War period. Therefore, while traditional concerns with security have previously concentrated on external threats to the state this has altered somewhat due to the impacts of globalisation.

The forces of globalisation and the rapid growth in technology have redefined the space of security dialogue since the Cold War. With the advent of globalisation has come disempowerment for weaker communities and social inequalities that have created an environment for unprecedented types of security threats (Annan, 2000a; Bowsher, Milner, & Sullivan, 2016). Additionally, what happens within nation-state borders can now significantly influence international spaces (Alkire 2003; Dahl-Eriksen, 2007; Newman, 2010). As such, it is no longer just states but people and the pervasive threats they face, such as poverty and infectious disease, which have increasingly become a major focus of security dialogues and in particular those addressing issues of human security or lack of human security (also termed insecurity).

Human security shares conceptual space and indeed compliments human development and human rights but differs from both of these concepts. Human development is broader and more holistic than human security and of concern to all states whether rich or poor (Alkire, 2003, p. 7). Unlike human rights, human security is focused on feasibility and only addresses particular rights and freedoms directed at protecting individuals from ‘freedom from fear’ and ‘freedom from want’ (Annan, 2000b). When applied in a HIV/AIDS context it is a useful tool for establishing those fears and wants hampering the efforts of governments and PLWHA to halt and potentially reverse HIV/AIDS epidemics.

Thus, this thesis adopts the following United Nations (UN) broad definition of human security, as articulated by then UN Secretary General Kofi Annan, as the best platform for understanding the position of PLWHA in mobile and marginalised communities in China. He states:

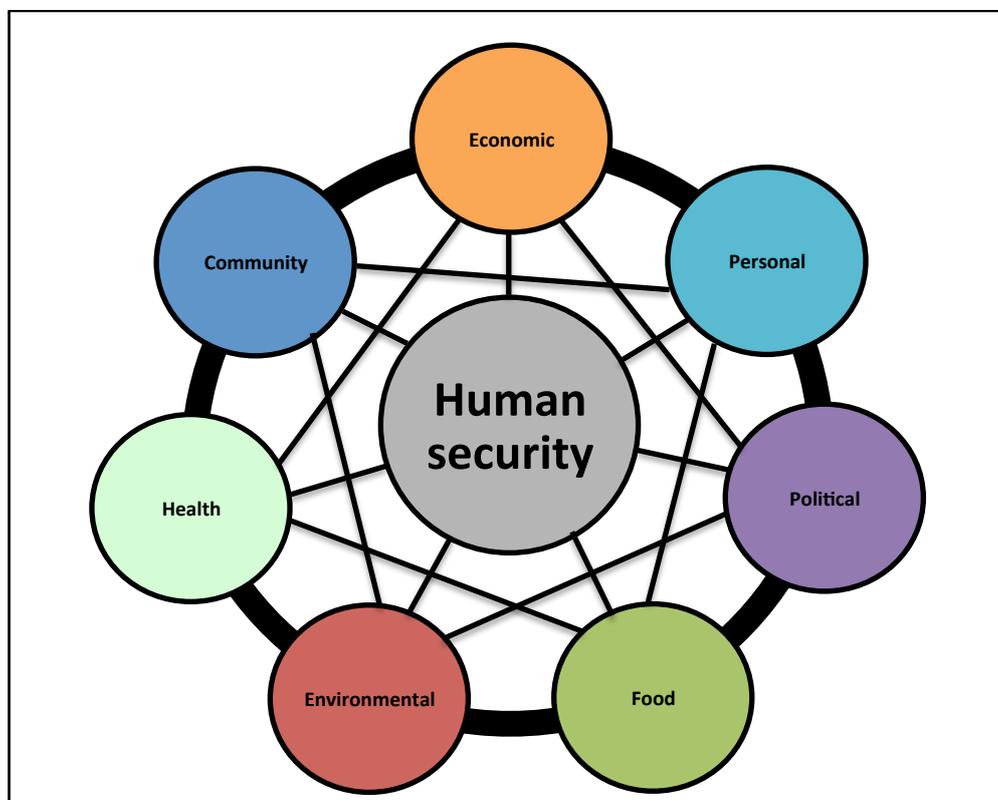
Human security, in its broadest sense, embraces far more than the absence of violent conflict. It encompasses human rights, good governance, access to education and health care and ensuring that each individual has opportunities and choices to fulfil his or her potential. Every step in this direction is also a step towards reducing poverty, achieving economic growth and preventing conflict.

Freedom from want, freedom from fear, and the freedom of future generations to inherit a healthy natural environment - these are the interrelated building blocks of human - and therefore national – security. (Annan, 2000b, para 3)

This definition clearly articulates human security as protective and perpetrating the rights of individuals to be free from threats pertaining to their economic, food, health, environmental, personal, community and political security (Alkire, 2003; UNDP, 1994, pp. 24-25).

Within human security frameworks these seven essentials are interlinked and affect each other. For example, economic security impacts food security; personal, political and community security can have direct impacts on an individuals’ ability to access health security; and food security impacts an individuals’ ability to attain economic and health security; environmental security can also impact economic, community and political security (see figure 1, page 6). When considering these same elements ensuring security from the standpoint of insecurity it is also accurate to state that insecurity in any one of these areas can cause insecurity in another.

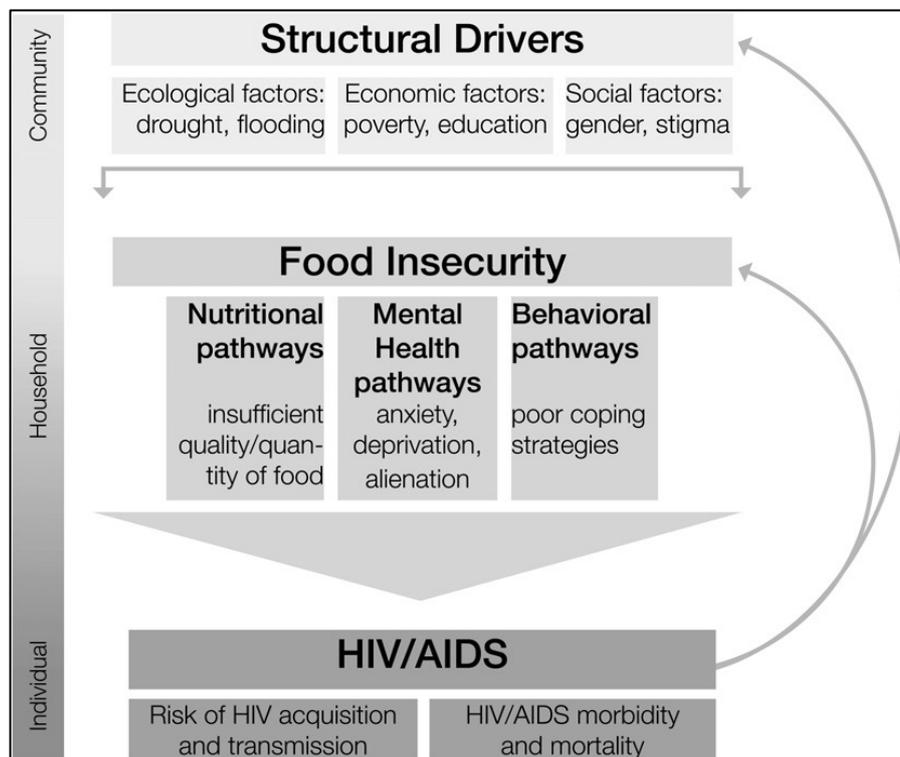
**Figure 1: Human security**



Source: Compiled by Author

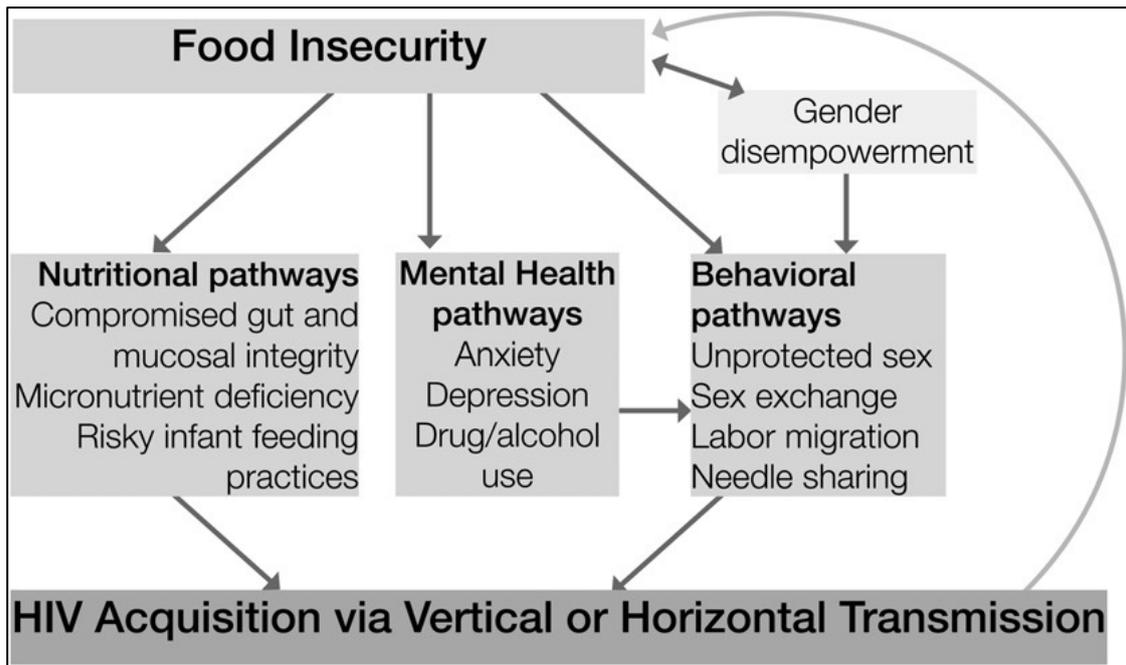
Food insecurity is of particular concern within HIV/AIDS epidemics, as not only does it hinder the biological impacts and sustainability of ART it also leads to high-risk behavioural pathways within HIV/AIDS epidemics (see diagram 2, page 7). Structural drivers at a community level, such as poverty, stigmatisation and ecological (or environmental) factors, have a direct correlation to food insecurity. This impacts households through behaviour, mental health and poor nutrition. Ultimately, these make the individual more vulnerable to contracting HIV. Thus on an individual level food insecurity generates three main pathways to HIV acquisition (see figure 3, page 8). Nutritional pathways leading to compromised mucosal and gut integrity and micronutrient deficiencies have an effect on PLWHA individual’s abilities to maintain ART and the suppression of HIV within the body. Mental health pathways may lead to high-risk behaviours such as alcohol abuse and drug taking in an effort to deal with depression and anxiety. The resulting behavioural pathways are well-documented as having direct impacts on HIV infectiousness and include: needle sharing, sex in exchange for drugs, food or money, unprotected sex and increased labour migration.

**Figure 2: Conceptual framework for food insecurity and HIV/AIDS linkages.**



Sourced from: Weiser et al. (2011, p. p. 1730S)

**Figure 3: Food insecurity and HIV acquisition.**



Sourced from: Weiser et al. (2011, p. 1731S)

Therefore, bolstering the human security and addressing areas of insecurity of PLWHA is mandatory when considering that HIV/AIDS can only be spread through the sharing of bodily fluids: mucous and/or blood during sexual intercourse; through the exchange of blood (e.g. sharing used injection equipment); or through ingesting breast milk. It is essential therefore that treatment and prevention programs targeting key populations approach the problem from the bottom-up. The virus is shared in the intimate spaces, between individuals. This is not to suggest that that sharing is always consensual. It might be forced, coerced, or due to peer pressure, gendered stereo-types, and so forth. However, the space where that event takes place is still intimate – person-to-person. The virus cannot be contracted through contact with a residue or breathed through the air. Two (or more) people must make contact and share an event that leads to the virus transmission from one to the other. This is particularly so since iatrogenic transmission through blood transfusion, while still occurring occasionally, is now considered unacceptable due to regulated blood collection practices. If the disease spreads in the intimate spaces the solutions must also be implemented in the intimate spaces. Thus, the risk taking behaviours, and the human insecurity instigating those behaviours, must be addressed before sustainable change can occur on the macro-level of nation-state and global community.

This is certainly the case in China simply due to the size of the population, and the potential that the current HIV/AIDS epidemic could rapidly spread if not well managed. For example:

If a pandemic of HIV/AIDS occurs in Mainland China, which has over 1/5 of the world's population, it will not only damage the national economy of China but also it can be an economic disaster for the rest of the world. (Qin et al., 2005, p. 1480)

Undoubtedly, the HIV/AIDS epidemic in China is a human security threat, not only to the economic growth and poverty reduction of the state but also to the health and wellbeing of individuals, particularly those that are hard to reach due to stigmatisation and marginalisation.

In the interest of this word constraints the literature concerning non-traditional security is examined in more depth in the literature review. Furthering these conceptions, chapter one provides a comprehensive overview of human security; the position it occupies within non-tradition security discourses; and the major schools of scholarly research. Indubitably it endorses the premise that HIV/AIDS constitutes a direct threat to the human security of PLWHA. Further, that a lack of human security in vulnerable populations exacerbates HIV/AIDS epidemics through amplifying the potential for individuals to engage in high-risk behaviours.

### **China's PLWHA and HIV/AIDS epidemic**

The Joint United Nations Programme on HIV/AIDS (UNAIDS) most recent China AIDS Response Progress Report (UNAIDS, 2015, p. 15) announced figures, generated by 1881 sentinel surveillance sites in China, revealing 103,501 newly reported cases of HIV in China. The overall number of reported cases of PLWHA in China was stated to be 501,000 at the conclusion of 2014 (UNAIDS, 2015, p. 7). Interestingly, the antecedent 2014 report states that 437,000 PLWHA were reported to be living in China at the end of 2013. This shows an increase of 64000 PLWHA over the course of one year. The disparity in the two figures presented in 2014 and 2015 occurs due to deaths from AIDS; which were recorded as 159,000 (UNAIDS, 2015, p. 7). Figures are fluid and problematic to verify concerning HIV/AIDS in China. As an example of this, in contrast to the lower 2015 figures, the 2012 AIDS response progress report estimated the epidemic in China at 780,000 PLWHA (UNAIDS, 2012, p. 6). It is possible that the divergent nature of the 2012 and 2015 figures is due to one being an estimate and the other being actual reported cases, but if that is so then

the 2015 figure needs to be revised upwards to account for PLWHA who remain ignorant of their HIV+ status.

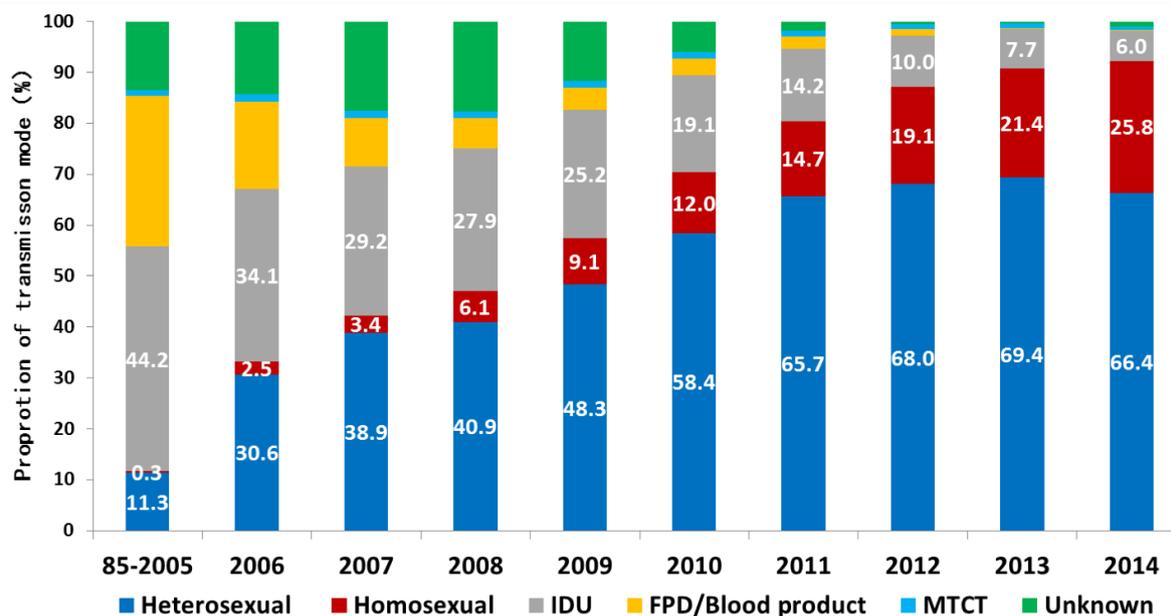
As a result of the difficulties in determining the veracity of China's HIV/AIDS figures caution needs to be exercised in representing those figures. Apart from the undiagnosed status of some PLWHA there is also evidence to suggest that figures are impacted by under reporting of HIV/AIDS in China (Saich, 2006). Additionally, China's surveillance coverage is reliant on key populations accessing health services, but disadvantaged subgroups are likely to be underrepresented (Zhang, Chow et al., 2013). What the reports do agree on is that China's HIV/AIDS epidemics are being expanded by a number of newly diagnosed PLWHA every year. Overall, in the Asian region, responses to the epidemic are being outpaced and there are nearly two newly diagnosed HIV infections for every HIV+ individual commencing anti-retroviral therapy (ART) (UNAIDS, 2011, p. 20). Therefore, to more effectively manage China's burgeoning epidemics, it is essential that the People's Republic of China (PRC)<sup>1</sup> understands the drivers of the epidemic and creates policy addressing the human security threats of PLWHA. In light of infection rates globally, and in China specifically, preventative measures need to be escalated and effects of human insecurity mitigated in order to halt the continued spread of HIV.

UNAIDS, and the HIV/AIDS community at large, currently support the 'Know your epidemic, Know your response' message. This message advocates that HIV/AIDS data-collection efforts should be fine-tuned to understand the dimensions of local epidemics in drafting effective national responses (Kurth et al., 2011; Mishra et al., 2012; Sgaier et al., 2012; UNAIDS, 2011). Utilising this rationale, this thesis sheds further light on the situations faced by these groups of mobile people and the challenges they pose to China's current HIV/AIDS policies. From the start of the epidemic in China HIV/AIDS has predominantly affected PWID but in 2007 the Joint Assessment on AIDS in China identified that the main route for transmission of HIV in China had moved from PWID to heterosexual transmission with female sex workers (FSWs) (*jinü* or more recently *Xiaojie*) acting as bridging populations to the general community (see page 12, Figure 4).

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<sup>1</sup> In this thesis the terms China and People's Republic of China (PRC) are used to make distinction between the country China and the central government of China. The term "China" is used to refer to the country as a whole.

**Figure 4: Transmission Modes of Newly Diagnosed Cases of HIV/AIDS by Year**



Sourced from: UNAIDS (2015, p. 10)

Historically, in China drug abuse and prostitution have been considered “social evils” as they operate outside the acceptable moral practices espoused by Chinese Confucian philosophy (Ding, Li, Ji, 2011; Qian et al., 2006; Yang & Kleinman, 2008). As a result CSWs and PWID are often stigmatised and marginalised. While Confucianism is only one of many reasons for this stigmatisation, it does play a part in the overall situation for PWID and FSWs and particularly those who are PLWHA. Although, stigmatisation is a problem for PLWHA globally, and in situations where Confucianism does not exist, it is driven by cultural beliefs unique to each particular society. Confucianism remains an underpinning belief system within China and it is therefore appropriate to comment on the affect that it has within a China HIV/AIDS context.

People exist within a variety of social contexts and these contexts provide the frameworks used to ascertain whether someone is a good or bad person (Hwang, 1999). Additionally, the concept of filial piety informs Chinese patterns of socialisation creating a hierarchical social structure and a ubiquitous propensity to judge individuals against moral standards and precepts (Hwang, 1999). Individuals operating within these filial attitudes are found to be more likely to subscribe to fatalistic, superstitious and stereotypical beliefs and have personal

characteristics such as dogmatism, authoritarianism and high conformity (Hwang, 1999, p. 178). Thus, when the moral standards, attitudes and modes of behaviour operating within Confucian culture judge drug use and sex work to be social evils and those practicing them to be bad, individuals within a society conform to this stereotypical belief which results in stigmatisation.

When the issue of living with HIV/AIDS is added to the mix, these groups are pushed even further into the periphery of society making them not only difficult to interact with, but to all intents and purposes shadow populations within their own country. Thus, highly mobile PLWHA might be seen as a new type of minority group beyond the interest and care of the PRC and conservative Han society (Hood, 2005). The stigmatisation and marginalisation of this new shadow minority has been exacerbated by state sanctioned media portrayals reflective of the PRC's general attitude towards PLWHA. PLWHA are portrayed as being unsafe, and only belonging to a certain class, occupation or ethnicity. This has led to individuals believing themselves to be immune to HIV and therefore engaging in high-risk behaviours. They may also fear to be tested due to concerns that a HIV+ diagnosis will lead to stigmatisation and discrimination (Burki, 2011; Hood, 2012; Li et al., 2006). One of the outcomes of an individual's disinclination to be tested for HIV/AIDS is the potential skewing of HIV/AIDS sentinel surveillance figures leading to under estimation of HIV/AIDS statistics. Stigma and marginalisation also greatly contributes to the likelihood that PLWHA will suffer from human insecurity, and be unable to procure ART medications, access health services or prevention initiatives.

Therefore, this potential community rejection of PLWHA has consequences not only for the spread of HIV but also for the management of HIV health programs and ART maintenance (Lin et al., 2008; Li, Liang et al., 2010). Moreover, those working in health care settings that offer services to PLWHA perpetrate and suffer from the same issues of stigmatisation and are therefore reluctant to treat PLWHA (Li et al., 2007; Lin et al., 2007; Lin et al., 2008). This has obvious implications for the expansion of HIV in China as a non-traditional security threat to China and the world. If those that are tasked to provide their medical assistance are reluctant to engage with PLWHA they cannot receive efficient, or sufficient, assistance to manage their disease or understand prevention initiatives.

Since HIV first became recognised as an epidemic in Yunnan it has spread throughout all of China's provinces, with two other distinct outbreaks in PWID in Xinjiang and former plasma donors (FPD) in Henan. Blood selling to unregulated blood collectors (known as blood-heads), clinics and other pharmaceutical concerns became popular as way to raise revenue for impoverished farmers in Henan during the 1990s. However, unsafe collection practices, including reinjection of pooled blood donations, lead to high numbers of donors, in particular majority Han Chinese, becoming infected with HIV (Hayes, 2005). This group of PLWHA was significant as the virus was impacting the ethnic majority and could no longer be considered a disease exclusive to ethnic minorities and morally corrupt people.

While HIV was believed confined to foreigners, ethnic minorities and injecting drug users, the PRC and China's general population seemed to have little sympathy for those living with the virus. Even as late as the end of the 1990s a preponderance of the urban Chinese were unaware of PLWHA in the Han ethnic majority. There was no politically sanctioned media discourse of the rising epidemic and the government, while making some preparations, largely ignored the problem (Hayes, 2005; Hood, 2012). Two events occurred to change the situation in the very late 1990s – early 2000s; the Chinese government were forced to acknowledge the problem after UNAIDS released their 2002 *HIV/AIDS: China's Titanic Peril* report predicting that without action China could have 10-20 million HIV+ people by 2010; and several doctors began diagnosing HIV and reporting their findings to authorities and the media (Hood, 2012). Significantly, it was not until the public were made aware of HIV in the Henan blood plasma donors, although reporters had to “tread carefully” due to state media prohibitions (Stern & O'Brien, 2011, p. 8), that both community and government support began to be mobilised. One reason for this was that the Henan plasma donors (while still enduring stigma) were deemed to be innocent sufferers; and having not violated the values esteemed by society were afforded some sympathy. Even so, the PRC still expended little effort to address the burgeoning problem of HIV/AIDS within China.

The pivotal healthcare nexus inducing the PRC to seriously consider the ramifications of HIV/AIDS epidemics within the country occurred due to the events surrounding the severe acute respiratory syndrome (SARS)<sup>2</sup> outbreak. The PRC were finally provoked to

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<sup>2</sup> SARS, a part of the coronavirus family, is a serious and highly infectious form of pneumonia that first appeared in Guangdong province in southern China in November 2002, then spread to 28 countries, infecting 8096 people and resulting in 774 deaths (Wishnick, 2010, p. 457).

contemplate HIV as a non-traditional security threat requiring serious discourse. The cover-ups and deceptions that proliferated during the SARS crisis were greeted unfavourably by the international community and the PRC were motivated to address the issue as a threat to all nations; as a flow on from this China began to seriously examine the issue of HIV within its borders (Knutsen, 2012; Wishnick, 2010). Thus, with these external and internal push-pull factors placing the PRC under international scrutiny and increasing public pressure, they began implementing health policies specifically dealing with HIV/AIDS (Knutsen, 2012).

This resulted in harm reduction programs for injecting drug users and a national HIV health care program labelled the 'Four Free and One Care'. This policy states:

...free ARV drugs will be given to all rural AIDS patients and urban AIDS patients facing financial difficulties; free voluntary counseling and testing (VCT) will be provided in high prevalence areas; free VCT and prevention of mother-to-child transmission (PMCT) services will be provided for pregnant women; free education will be available for children orphaned by HIV/AIDS; and care will be given to all AIDS patients facing financial difficulties. (Zhang et al., 2006, p. 98)

Regardless of the implied intent of the Four Frees and One Care policy to make HIV/AIDS care available to everyone there is still a lack of adequate care for PLWHA in China. Additionally, there is a lack of equity in the distribution of services under this program.

Continuing concerns for the expansion of HIV/AIDS in China include the epidemics concentration in rural areas; chronic underfunding of rural health services resulting in low capacity to deal with a burgeoning HIV epidemic; high costs of services which place them out of reach of many patients; underreporting of cases and misdiagnosis; poor levels of training and lack of personnel to conduct laboratory testing; and lastly, the refusal of some hospitals to accept HIV patients (Saich, 2006; Yip, 2006; Zhang et al., 2006).

Although costs of health care for PLWHA are high they will only continue to increase unless a solution is found. At the present moment there is a narrow window of opportunity to obviate an epidemic that will be even costlier with regards to human suffering and increased medical system costs from treating high numbers of patients (Saich, 2006, p. 93 - 94). With rates of HIV increasing in China, there were a reported 103,501 new infections in 2014 (UNAIDS, 2015, p. 15), it is essential that the PRC address the shortfalls in current HIV policies. An essential component in addressing the current shortfalls is mitigating the threats to the human security of PLWHA. Particularly in key populations, who are generally highly

vulnerable and most in need of holistic interventions tackling the disease and conjunctive essentials such as poverty alleviation, stigma and community engagement.

In summary, while in part working within a non-traditional security threat context as a result of SARS, to date there seems to be no intent by the PRC to embrace a human security framework in shaping an effective response to the HIV/AIDS epidemic. Their responses have been inadequate particularly in mobile populations. Although there are many vectors<sup>3</sup> or modes of transmission, for HIV in China, such as, men who have sex with men (MSM), FPD, mother-to-child transmission (MTCT), CSWs, PWID and some migrant population, rates of infection differ across these cohorts. Therefore, CSWs (specifically FSWs due to their higher numbers and increased vulnerability grounded in unfavourable gendered norms), PWID and the undocumented floating migrant population will be the focus of this thesis as the groups with the highest rates of infection found in China's Yunnan province.

In order to effectively prevent the transmission of HIV among these highly mobile and marginalised populations it is important to examine the factors that increase HIV vulnerability. As such, this thesis examines the current HIV/AIDS situation encountered by these groups. Moreover, it analyses the impact resulting from a lack of human security encountered within a state and society that stigmatises, marginalises, and thereby places key populations at the threshold of the conventional assistance offered by the PRC. In doing so it identifies current gaps in policy and provides a more complete understanding of the characteristic value of human security frameworks in dealing with the existing HIV/AIDS epidemic in China.

## **Methodology**

This research used a documentary approach involving primary and secondary sources with textual analysis of journals, books, reports and other scholarly articles, both in Australia and at the Universities Service Centre (USC) of the Chinese University in Hong Kong. Additionally, electronic sources of information, observations, itinerant ethnography and semi-structured interviews with key stakeholders were conducted to inform the research. Ethical clearance was gained in order to obtain primary research information in the form of incidental conversations, interviews with informants, discussions with experts in the field and government and non-governmental organisations working on HIV/AIDS prevention in

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<sup>3</sup> Vector is a medical/epidemiological term for agents (people, animals or other organisms) that carry and transmit infectious disease (such as HIV) from one host to another.

Yunnan Province in Southern China, including the Yunnan Centre for Disease Control located in Kunming.

Due to the sensitive nature of the research within a Chinese context ethical clearance did not allow for direct interviews of individuals within key populations due to potential vulnerability. However, during field research in Yunnan it was possible to meet with individuals acting as peer support workers within those populations as they were operating in a public manner and without the fear of arrest or harassment faced by individuals active within the cohorts. Moreover, ethical considerations concerning personal safety within locations known for drug use and sex work disallowed for impromptu or unsupervised visits. The expert nature and experience of members of the NGOs contacted within Kunming did mean that it was possible to visit periphery areas and drug and sex worker drop-in centres to interview workers and make observations. Additionally, ethical clearance allowed for the interviewing of sex worker advocates (including transgender sex workers) from a number of different countries, including Myanmar sex workers working in the China/Myanmar border, in attendance at AIDS 2014 in Melbourne. Thus, information from primary sources was accessed. This is further discussed in the chapter concerning field research.

Field work was conducted in Yunnan and in particular Ruili and Kunming, where information was sought from representatives from officials in Yunnan provincial and local governments (although this only happened in an informal manner), and representatives from NGOs and CBO providing HIV/AIDS services, including methadone maintenance treatment (MMT) and syringe programs and outreach to FSWs, PWID and migrants, in Kunming and Ruili. Snowball sampling was used to identify possible interviewees. In total 6 HIV/AIDS NGO workers (one of whom was a sex worker advocate and peer working in the Myanmar/China border area), 2 PWID peer workers (informally interviewed with Chen acting as an interpreter) and 7 individuals who were either PLWHA (and/or PWID or FSWs) or family representatives who had been adversely affected by HIV/AIDS were interviewed. A semi-structured interview style was used in order to allow interviewees to have the flexibility to tell their stories. These interviews ranged in time from ½ to 1 hour depending on location (whether in the field or at the NGOs offices). In the case of Chen, who is a medical doctor working with PLWHA as well as managing an NGO involved in outreach and the facilitation of CBOs on both the Myanmar/China border and the Vietnam/Myanmar border, interviews took place over a number of days both in Kunming and Ruili. Following the example of

Rabionet (2011, p. 564), specific topics were addressed and interviewees had the flexibility to introduce information that they felt to be important. Rabionet (2011, p. 563) recommends qualitative interviewing as a powerful tool that is flexible enough to effectively apprehend people's voice and meaning as they share their experiences.

Observation of members of the mobile communities that were examined in this study were also an important component of the research. Additionally, "itinerant ethnography" as employed by Schein (2000, p. 28) and Hayes (2007, p. 31), allowed for "incidental conversations" to be utilised within the research to gain an understanding of general attitudes towards PLWHA. In doing this it became possible to: "...examine the circulation of cultural meanings, objects and identities" (Schein, 2000, p. 28). Records of interviews, incidental conversations and field note journals were compiled using ethical practices ensuring the safety and confidentiality of informants. The Bond University Human Research Ethics Committee (BUHREC) granted ethical clearance for the field research.

### **Study limitations**

Doing research in China can prove problematic. Chinese authorities are often reluctant to allow foreign scholars entry into areas that it deems to be sensitive and which may possibly cause the government to "lose face" (Yang & Le, 2008, p.117). Significantly, this reluctance to lose face in the international community can cause the PRC to "brush aside concerns" and avoid accepting blame for sensitive issues (Bate, 2012, pp.178-179). As such it was essential to develop trust resulting in:

...collaboration, and consensus, communicating and negotiating partnerships [which] are necessary considerations for researchers who are to conduct qualitative research in China where diverse cultural and political influences present particular challenges. (Yang and Le, 2008, p. 122)

Becoming familiar with cultural aspects of Chinese society was crucial in order to avoid misunderstandings throughout the phases of the research as these could make data collection difficult and creates barriers to authentic research (Yang & Le, 2008, pp.118-119).

Furthermore, the populations being studied are highly mobile and operate on the fringes of society. This is in part, due to their illegal status and the covert nature of their practices (Ding et al., 2005). This results in members of the communities being untrusting of strangers and fearful of bringing attention to themselves. This mistrust may well extend to include health

workers and organisations that interact with the populations being researched. Indeed, for politically sensitive issues such as HIV there is a lot of suspicion of researchers because of concerns that they will not correctly interpret the facts, which may potentially result in damage to the country as a whole (Yang & Le, 2008, p. 122). Therefore, it was essential to generate contacts on the ground in China through the development of relationships with health workers that provided entry into the communities being researched.

Additionally, the time constraints of this research meant that although China has many vectors for the spread of HIV only a few could be included in this thesis. While there are reasonably high rates of infection in MTCT, MSM, and FPDs they constitute a lesser number of the overall epidemic. Conversely, there are still high numbers of new infections in PWID populations. However, this is changing with China's highest rates of new infection occurring through sexual interactions, including those in MSM populations. Migrant populations are implicated in the spread of HIV both due to an adoption of high-risk behaviours away from their home communities, and the potential for introducing HIV into a number of new areas as they move from one location to another. This thesis therefore limits itself to PWID, CSWs and the floating migrant populations and the convergence of HIV in these groups.

In summary, due to the difficulties involved in researching sensitive issues in China, the reluctance of Chinese authorities to allow foreign researchers access to target sites and populations and given the nature of cross-cultural research, there are several limitations on this study. Even so, these limitations have not precluded the gathering of valuable and pertinent information that highlight China's current policies for HIV/AIDS in mobile populations and their recognition or lack thereof of HIV as a non-traditional (human security) threat. Although the thesis has been limited to the study of FSWs, PWID and the floating populations it should be stressed that these population groups are currently those with the highest rates of HIV and include the initial cohort for the spread of HIV in China and the primary sources of emergent infections.

## Literature review

Over the past thirty years the global HIV/AIDS pandemic has been of persistent concern to governments, researchers and individuals. Although UNAIDS data suggests that in recent years the incidence of infection has stabilised, and even began to wane in some countries with generalised epidemics, there are still an alarming number of people becoming infected every year. UNAIDS (2011, p. 1) estimates that 2.7 million people, equating to almost 7500 people per day, were newly affected with HIV in 2010. As previously mentioned, country specific figures suggest China's current estimated HIV/AIDS burden to be 780,000 PLWHA with some 103,501 new infections for 2014 (UNAIDS, 2012, p. 6; UNAIDS, 2015, p. 15). Much research has been done on the HIV/AIDS pandemic globally (particularly in Sub-Saharan Africa) in China and as such it is possible to gain a comprehensive understanding of the general trajectory of China's site-specific HIV/AIDS epidemics. When considering the large numbers of new infections, and the continuing financial and social burden of the disease on states and their populace, it is apparent that HIV/AIDS persists as a significant non-traditional security threat.

HIV/AIDS first became securitised by the UN in the year 2000 with the drafting of Resolution 1308 and since that time there has been vigorous debate about how best to contextualise the issue as a human security threat or indeed, whether it should be done at all (Elbe, 2006; Ketterman, 2006). The literature on International Relations theory concerning the conceptual shift in the previously state-centric viewpoint of security since globalisation is well represented by Alkire (2003), Fakuda-Parr (2003), Dahl-Eriksen (2007) and Newman (2010). They suggest that while traditional concerns with security are still prominent, issues faced by individuals and their rights to live in 'freedom from fear' and 'freedom from want' are becoming more important to policy makers. Conceptualised by human security theories, issues such as poverty, environmental devastation, hunger, gender inequity and infectious disease are now on international agendas.

In presenting HIV/AIDS as a non-traditional security threat at the UN Security Council, Gore (2000) used traditional concerns with security as a scaffold by conceptualising the struggle against the HIV epidemic as a war, stating: "The United Nations was created to stop wars. Now, we must wage and win a great and peaceful war of our time – the war against AIDS" (para. 25). In July 2000 UN resolution 1308 was passed (see appendix 1) elevating concerns

with HIV/AIDS in a human security context onto the UN agenda. This was the first time that HIV/AIDS was considered in the context of a non-traditional threat to security. While it was the US who presented HIV as a non-traditional threat to security they were not alone in situating HIV as a threat. Due to the scale and impact of HIV/AIDS globally, there was a distinct desire internationally to securitise HIV and understandings of its security have continued to develop since this time (Hindmarch, 2016).

Since that time the UN has continued to develop a common understanding of human security. In September 2012 at the 66<sup>th</sup> General Assembly the UN adopted a consensus text on human security as proposed in paragraph 143 of the 2005 World Summit Outcome stating:

...a common understanding on the notion of human security would include the right of people to live in freedom and dignity; a call for people-centred, comprehensive, context-specific and prevention-oriented responses that strengthened the protection and empowerment of all people and all communities; and recognition of the interlinkages between peace, development and human rights, and equally considered civil, political, economic, social and cultural rights. (para. 20)

Albeit, there is continuing conceptual debate about human security and whether infectious diseases such as HIV/AIDS should be securitised. Some debates on human security focus on the lack of clarity and broadness of current definitions and question their workability in international arenas (Aldis, 2008; Ketterman, 2006; Newman, 2010).

Newman (2010, p.78) submits that human security is normative and involves reshaping security around the individual according to international standards of human rights and governance. He further suggests that it "...seeks to challenge attitudes and institutions that privilege so-called 'high politics' above individual experiences of deprivation and insecurity" (2010, p. 79). A report by the Commission on Human Security states:

Human security complements state security, enhances human rights and strengthens human development. It seeks to protect people against a broad range of threats to individuals and communities and, further, to empower them to act on their own behalf. And it seeks to forge a global alliance to strengthen the institutional policies that link individuals and the state—and the state with a global world. (Ogata & Sen, 2003, pp. 2 & 4)

In other words, the ultimate purpose of human security is to establish safeguards for the vital core of human life by protecting individuals from pervasive threats and thereby enable long-term human fulfilment (Alkire, 2003, p. 2). Hayes (2007, 2012) touches on some similar issues and introduces the concept of human security as it applies to the HIV situation in

China. In this way her work informs research being undertaken in this thesis in its application of HIV/AIDS as a human security threat in marginalised populations. Therefore, a human security framework is essential in shaping responses to the ubiquitous non-traditional security threats, including HIV/AIDS, faced by states and individuals in the current globalised environment.

However, human security is not as firmly entrenched in international security dialogues as many people believe. Rushton (2010) suggests that the UN has not really accepted HIV/AIDS as a human security threat. Rushton's stance is reiterated in a corroborative article with McInnes suggesting that securitisation of HIV/AIDS was only partially successful (McInnes & Rushton, 2010, p. 234). To the contrary, these arguments are questionable in light of the 2012 resolution by the UN to seek common understandings of human security (UN, 2012). Clearly, human security is still on the UN agenda and as yet there has been no repeal of the existing broader definitions such as those submitted by Annan (2000a) and Gore (2000) which includes infectious disease and HIV/AIDS specifically. Despite this, there is not consensus on whether infectious disease should be conceptualised as a human security threat.

Scholars such as Aldis (2008), Wishnick (2010) and Selgelid and Enemark (2008) suggest that the securitisation of infectious disease can be problematic due to associated stigma and suspicion related to definitions pertaining to health security. Wishnick (2010, p. 463) uses the HIV pandemic and the SARS outbreak in China as case studies and suggests that securitisation can lead to certain groups having their civil liberties restricted or being stigmatised, refusals to share data and in excessive penalties. Other theorists question the effectiveness or benefit of securitising diseases such as HIV/AIDS (Rushton, 2010). Additionally, some proponents of the Copenhagen School suggest securitisation of infectious disease can create some situations where resources and political will are disproportionate to the problem; resulting in fear and loss of freedoms and human rights for individuals (Newman, 2010).

In contradiction with these scholars De Waal, Klot, Mahajan, Huber et al. (2010, p. 25) confirms that HIV/AIDS does pose diverse threats to international, national and human security. There are many positive outcomes for the securitisation of HIV including attracting attention and proportionate resources to the problem and mobilising political will (Wishnick, 2010). Human security in a health setting is also beneficial in that it focuses on the risks of

rapid change that has led to better surveillance mechanisms and added focus on early warning and prevention efforts (Fakuda-Parr, 2003). Regardless of debates concerning human security frameworks scholars agree that there is a greater acceptance for the concept of health security in literature and public policy (Aldis, 2008; Davies, 2008; Newman, 2010).

Notwithstanding, Aldis (2008) argues that the definitions of health security are too broad in scope and not clearly understood by stakeholders; which can lead to a break down in global cooperation. Newman (2010), in agreement with Aldis, suggests that definitions should be more delineated and less opaque. Newman concedes that there is no uncontested definition or approach to human security. However, he suggests that a broad approach, such as that adopted by the UN, attracts the most critics who argue:

...the broad approach is so inclusive – in considering potentially any threat to human safety – that as a concept it becomes meaningless. It does not allow scholars or policy makers to prioritise different types of threats, it confuses sources and consequences of insecurity, and it is too amorphous to allow analysis with any degree of precision. (Newman, 2010, p. 82)

Newman accepts that human security can be considered analytically weak (while normatively attractive); but counters that for many stakeholders interested in promoting human security the real issue is the improvement of lives that are dangerously insecure (Newman, 2010, pp. 82 – 83). Shaw, McLean and Black (2006) advocate something similar and suggest that ‘freedom from want’ has been displaced by ‘freedom from fear’ as it is definitionally narrower and more compatible with state-centric frameworks (p. 4). The debate and analytical coherence is incidental and non-essential as many interested in promoting human security are simply interested in its impact on policy.

This thesis more closely adopts this policy driven approach to human security and its concerns with assisting those that are least empowered and most insecure. However it does agree that human security needs to further confront the internal contradictions and analytical confusion surrounding the scope and application of human security in order to get past the debates about definition. In doing so human security can be academically viable, positively contribute to security studies and remain policy relevant (Newman, 2010, p. 92). Therefore, even while lacking in the area of definition, human security frameworks are still useful and worthy of increased adoption and adaptation. Indeed, during the recent sixty-seventh UN General Assembly member states committed to further dialogue concerning human security and internationally agreed goals (UN, 2012).

China, however, has a sceptical approach to human security. In the Sixty-Fourth General Assembly China's representative La Yifan presented their concept of human security, identifying that it:

“...pertained to many different fields, and his delegation considered that it was still a broad and abstract idea that did not enjoy international consensus. Member States needed to engage in further discussion on the matter to arrive at a clearer definition of the concept and mechanisms through which it would be applied. In all that, China believed that Governments retained the primary responsibility of ensuring the security of their citizens”. (UN, 2010, para. 58)

While La Yifan does indicate China's willingness to engage in further discussion concerning the concepts and mechanisms of human security, the above statement clearly indicates that China presently has a limited engagement in issues of human security and that traditional forms of security are still predominant in PRC security discourses.

Much earlier, Chu (2002) provided an informative background on China's reluctance to embrace the term 'human security',<sup>4</sup> identifying their strong bias towards traditional forms of security, inviolable sovereignty and reluctance to allow humanitarian intervention or interference in their internal affairs as a key part of the PRC's reluctance to embrace such an approach to security. He suggested that China is rather concerned with 'people's safety' somewhat fashioned on UN concepts of human security. Furthermore, he cautioned that while the PRC is open to embracing its citizens' right to 'safety' it does not accept that individual human rights rank higher than state sovereignty (Chu, 2002, p. 5). Therefore, when contemplating Yifan's announcement and Chu's article in the light of global ramifications of HIV/AIDS and agreed upon necessity for collaboration, PLWHA in China may presently face a lack of effective infrastructure in addressing the HIV epidemic.

That is not to suggest that the PRC has made no attempts to deal with the HIV/AIDS epidemic in China. Regardless, several scholars question the effectiveness and affordability of HIV/AIDS programs including ART (Yu et al., 2008; Zhou et al., 2011), prevention education programs and harm reduction and methadone maintenance programs for PWID in China (Hood, 2011; Li, Ha et al., 2010; Pirkle et al., 2007; Qian et al., 2006; Tucker et al., 2011; Tsai, Morisky & Chen 2010, p. 546). Knutsen (2012) suggests that the PRC's

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<sup>4</sup> The PRC considers that the term “...*security* should be reserved for issues of national importance, whereas the term *safety* better reflects individual concerns” (Chu, 2002, p. 2).

conventional approach has led to human rights violations through mandatory detention and mass screenings but believes that the PRC has adopted a more human rights approach in recent years and as such more effectively addressed the epidemic.

However, some researchers such as Philbin and Zhang (2010) and Sun et al. (2010) argue that even though the PRC has made inroads in providing universal access to HIV/AIDS prevention and treatment programs in China, there are still important gaps. This is exacerbated by China's decentralised health structure (Gill, 2006; Hood, 2011; Liu & Kaufman, 2006; Saich, 2006; Sun et al., 2010). Additionally, much of the literature negatively comments on the stigmatisation, risk of arrest and lack of access to services that arise from current laws criminalising sex work and drug use in China and how it augments the spread of HIV (Hammett, Wu et al., 2007; Li et al., 2010; Philbin & Zhang, 2010; Qian et al., 2006; UNAIDS, 2010). In considering the shortfalls and challenges faced by the PRC in dealing with the HIV epidemic, this thesis uses a human security lens to focus on the current gaps in policy and provision of services, in particular those for highly mobile populations.

Many researchers agree that successful control of HIV in China's health care sector requires strong international collaboration, as well as the development of grassroots organisations to deliver efficacious HIV/AIDS programs and ongoing ART maintenance (Sun et al., 2010; Wu, Wang, Detels & Rotheram-Borus, 2010). Liu and Kaufman (2006), submit that it is essential that there be a "comprehensive intersector response" and "collaboration between different stakeholders" (p. 93). This is reinforced by Zhang, Hsu, Yu, Wen, and Pan (2006), who examine the ART program in China and suggest that a patient's social environment plays a vital role in the success of ongoing adherence to ART regimes.

Even so, scholars recognise that while Government Organised NGOs are involved with HIV programs in China there are still a lack of independent INGOs and NGOs (Qian et al., 2006; Tucker et al., 2011). Tuñón (2006) and Stern and O'Brien (2011) all remark on the independent organisations in China but disagree somewhat as to their effectiveness and acceptability in the Chinese context. Tuñón praises the organisations and their effectiveness while Stern and O'Brien believe them to be troubled by blurred operational boundaries and PRC 'crackdowns' (2011, p. 14). Du Guerny, Hsu and Hong (2003) suggest that formal intervention programs are ineffective and suggest a more situation specific approach is

needed. This would particularly apply in scenarios involving highly mobile people groups that may not access conventional programs.

Independent organisations play an important role in mobile and marginalised populations as they cater to people who are unlikely to access state run HIV/AIDS outreach programs due to fear of stigmatisation and arrest. A number of scholars state that conventional HIV outreach programs are impractical for accessing these mobile populations and that intervention programs need to be tailored for their needs (Chu and Liu, 2011; Du Guerny et al., 2003; Li et al., 2010; Sun et al., 2010). Fortunately, in recent years there have been a number of different studies concentrating on the HIV vulnerabilities faced by mobile people groups and the health care initiatives supporting them (Knutsen, 2012; Tucker et al., 2011; Wang et al., 2007).

Tuñón (2006) provides particularly helpful information concerning the *hukou* system of registration and the lack of health care for workers who have an undocumented status. However, his research is concerned with all aspects of labour mobility rather than HIV specifically. Nonetheless, he does discuss the interconnectedness of these groups and their vulnerability to HIV. In HIV/AIDS settings migrant populations, FSWs and PWID are often interconnected and individuals may be classified as one or all of the groups mentioned. Mao et al. (2010) state, “Effective responses to infectious disease epidemics depend on timely information” (p. ii80). This is particularly so considering HIV/AIDS epidemics are concentrated in these highly mobile high-risk groups and the epidemic can change substantially depending on site-specific circumstances.

UNAIDS confirms that the overwhelming burden of the disease rests with CSWs, PWID, migrants, MSM, transgender (TG) people and prisoners. Significantly, although there have been commitments made to respect the human rights of these high risk populations they still “...continue to face violence, social stigma and poor access to HIV services in many settings, a situation compounded by laws that criminalise homosexuality, drug use and sex work” (UNAIDS, 2011, p. 4). Researchers such as Zhang et al. (2006) confirm that within China this global trend of stigmatisation and marginalisation is evident amongst PLWHA. Other researchers have noted that stigma and discrimination have resulted in gaps in HIV policy and that high-risk groups are not receiving the assistance needed (Cai, 2006; Hood, 2012; Kaufman & Meyers, 2006; Li et al., 2006; Lin et al., 2007; Sun et al., 2010). Naiqun (2006, p.

194) suggests that the spread of HIV in China implies specific political and economic inequalities.

Philbin and Yang (2010, p. 626), advise that this high rate of stigmatisation has resulted in PWID avoiding harm reduction programs due to fear of arrest and stigmatisation once their HIV status becomes known. Indeed, Pirkle et al. (2007) submit that FSWs are "...doubly marginalised, as they are both at high STI/HIV risk and subject to government sanctioned prosecution" (p. 696). In actuality this is a trend which is apparent not only in China's marginalised populations but also in the segments of the general population affected by HIV/AIDS. Sandra Hyde (2007) has written an excellent work on the cultural politics of AIDS in southwest China that covers some similar issues to those being proposed for this research. She considers the mobility and multiplication patterns of disease as it passes through different locations and its impact on the culture and politics of individuals and groups concluding that belonging to an ethnic minority, sex work and people movement creates a nexus exacerbating HIV transmission.

In many ways her work is similar to that of Hood (2005). Hood (2005) submits that people with HIV-positive (HIV+) status have become a separate type of minority group with a reconceptualised identity as an "AIDS Minority" (*Aizu*) (p. 24). Hayes (2012) proposes that this new minority status supplants other ethnic identifications and that although one might be born in the Han Chinese majority being publically known to be HIV+ simply makes one identifiable as a person with HIV; therefore stripping away any of the privileges Han ethnicity may provide the individual, in comparison to non-Han counterparts. Kaufman and Meyers (2006) suggest that stigma related to group identification contributes to HIV vulnerability through impacts of marginalisation and limitations in accessing the employment and services.

Hood's (2012) more recent research further considers HIV/AIDS in the context of media portrayals of PLWHA and the impact that this has on issues of stigma and resulting lack of access to medical interventions. Therefore, without financial resources and access to services these groups cannot connect with prevention initiatives, treatment or education programs on the risk factors contributing to the metastasizing of HIV throughout the state. This is particularly so in the case of China where stigmatisation and marginalisation of 'morally corrupt individuals' is condoned by Chinese Confucian philosophy (Li et al., 2006; Lin et al.,

2010; Tang & Hao, 2007). This is reflective of Dikotter (1998) who proposes that eugenist discourse, which elevates the gene pool above the rights and needs of the individual, is operating in China and that medical and economic explanations are used to control marginalised people considered not fit for society. He further indicates that in addition to focusing on genetic disease, information about genetics can be used against virtually anyone considered to be socially undesirable or economically burdensome. Whether deliberate eugenist discourses are operating within China or not these scholars are in agreement that PLWHA in China are stigmatised and generally considered undesirable.

An article by Burki (2011) confirms that stigmatisation is still a major problem for PLWHA in China. Burki refers to a report co-issued by the International Labour Organisation (ILO) and China's Centre for Disease Control (CDC) which stated that the national policy for recruiting civil servants and sanitation employees working in public places excluded those suffering from sexually transmitted infections (STIs) and HIV from employment. This is in spite of policies and laws prohibiting discrimination against these groups of people. Further, he suggests that this is in part due to common misperceptions and prejudices<sup>5</sup> concerning HIV/AIDS and a clause in the Employment Promotion Law (2007) forbidding infected individuals doing any jobs where they may expose someone to the disease. Moreover, there were troubling reports of health care workers violating the privacy of clients and revealing their HIV status to employers. Stigmatisation clearly has a substantial impact on the human security of PLWHA in China.

A short study by Cai (2006) further suggests that discrimination and stigmatisation results in weak HIV/AIDS programs and that PLWHA are afraid to assert their rights. He submits that effective HIV outreach needs the participation of PLWHA and as such they need to feel safe enough to contribute. A Chinese study undertaken by Li, Liang et al. (2010) confirms Cai's assertions regarding stigmatisation. In attempting to ascertain general attitudes towards PLWHA their study suggests that stigma reduction programs can change attitudes towards PLWHA and thereby have positive effects on participation in HIV programs. The researchers propose that this may be assisted by integration of HIV prevention and stigma reduction frameworks. While there are some significant gaps in this research— for example, this study did not approach PLWHA concerning the ways in which they perceive stigma - it does

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<sup>5</sup> He comments on statistics that suggest 51% of people would not shake hands with a HIV+ person and 80% would not buy a product from them.

confirm a link between stigma and the efficacy of HIV programs. Stigma, and the resulting marginalisation of individuals, is obviously playing an important role in the expansion of HIV in China.

This is significant in places such as Yunnan where there are high numbers of FSWs, PWID and migrant workers who already suffer from marginalisation even without the added stigma of HIV (Xiao, Kristensen, Sun, Lu and Vermund, 2007). Yunnan province is a rural area populated by a large number of ethnic minorities and bordered by several states. Researchers such as Breyer et al. (2006) and Philbin and Zhang (2010) identify how Yunnan's proximity to trafficking routes and drug production areas of the Golden Triangle have contributed to high rates of IDU and subsequent HIV infection. Yunnan has the highest rates of infection for HIV/AIDS in China (UNAIDS, 2011, Jia et al., 2008; Jia et al., 2010).

Scholars researching the epidemic in China suggest that the highest concentrations (estimated at 80 percent) of PLWHA are residents of rural areas (Gill, 2006; Jia et al., 2010; Xiao et al., 2007; Yip 2006; Zhang, 2006). Saich (2006) and Yi et al. (2010) agree that there is a lack in rural health care spending and desultory health care access for poor rural inhabitants. Gill (2006) concurs and comments on the asymmetrical nature of rural HIV/AIDS policy in comparison to that of urban centres. Considering that much of the floating population originates from rural communities this is an area of urgent concern as these highly mobile, high-risk population groups are residing in and passing through these communities.

Many scholars agree that the HIV/AIDS epidemic in China still bears further scrutiny particularly in the previously mentioned mobile and marginalised communities (Kaufman, Kleinman & Saich, 2006; Yi et al., 2010; Zhao et al., 2005). In considering the literature concerning the three cohorts being researched in this thesis it becomes clear that in order to understand the epidemic in China it is essential to gain a comprehensive understanding of how these groups have been impacted by the disease and the impact they have on communities. While there have been many studies on the HIV/AIDS situation faced by PWID due to their status as the HIV ground zero population in China there is less information available on FSWs and limited information on floating migrants (Knutsen, 2012; Li et al., 2009; Tucker et al., 2012; Wang et al., 2007; Yang, Latkin, Luan & Nelson, 2010; Yi et al., 2010).

The HIV/AIDS epidemic in China was first identified in PWID in Yunnan province and as a cohort they have the highest rates of PLWHA in China. The existing literature on PWID in China, particularly in Yunnan and Xinjiang provinces in China, reveal globally established trends for the transmission of HIV both within IDU communities and the expansion into the general population. Studies have found that illicit drug networks, needle sharing and other high-risk behaviours such as trading sex for drugs or money to buy drugs were implicated in the spread of HIV (Beyrer et al., 2006; Che et al., 2011; Hammett et al., 2006; Hu et al., 2011; Li, He, Wang & Williams, 2009; Qian et al., 2006). This thesis is concerned with the non-traditional security implications for individuals in these groups and the state as a whole. Much of the literature indicates that PWID are closely entwined with other high-risk groups and as such this has prompted the inclusion of the mobile groups selected by this thesis.

One cross sectional research study of FSWs by Wang et al. (2009, p. 162) found that injection drug use was the single largest factor for HIV infection in these groups. They collected blood and questioned participants to obtain information about drug habits, condom usage, and a range of other social interactions. However, their study was limited, and results possibly misclassified, due to its reliance on self-reporting from participants. Their outcomes were consistent with other studies concerning FSWs in China (Hu et al., 2011; Yao et al., 2009). Additionally, Wang et al. were unable to discover whether infection was initially caused through sex or drug networks. As a result they advocate for further research into the associations of drug and sex work in China (2009, p. 167). The importance of this study subsists in recognition of definite linkages between PWID and FSWs in HIV transmission. When considering that many FSWs are floating migrants it makes the research being undertaken in this thesis even more timely and significant.

Further to this Huda (2006) and Skeldon (2000) provide informative explication into the ways that migration and sex trafficking impact on the expansion of HIV. Migrants are considered high risk groups as they are away from usual support networks; young and often single; and open to risk behaviours such as drug use and sexual mixing (Merli & Hertog, 2010; Nath, 2008; Knutsen, 2012; Liu, 2011; Thiesmeyer, 2005; Yang, Latkin et al., 2010). In a study done by Wang, Li, Stanton, Fang, Lin et al. (2007, p. 2) they found that migrants had significantly higher rates of HIV, reinforcing their importance as one of the target population groups for this thesis. This was confirmed by Jun et al. (2008, p. 558) with the authors referring to studies done in Shandong and Shanxi, which found that almost 70 percent

of all PLWHA were migrants. However, Jun et al. (2008) also discussed results of another study that found low or no HIV prevalence in migrants leading them to caution that other factors might contribute to HIV in migrant cohorts. Contrary to this, Yang, Derlega and Luo (2007) suggest that they might be pivotal to the expansion of HIV in China. Piot, Greener and Russel (2007, p. 1571) confirm this stating that infection patterns are influenced by the increase of men and women looking for work within and across borders and that mobility correlates to higher rates of infection. When considering this in the light of migrant's limited access to health services (Liao et al., 2011), lack of health insurance and undocumented status (Tuñón, 2006) the research undertaken in this thesis is essential in gaining a more expanded understanding of the human security threats faced by floating migrants.

This has become even more important with recent studies confirming that transmission of HIV in China has moved from being driven by IDUs to being driven by sexual contact (Merli & Hertog, 2010; UNAIDS, 2011; Yang, Latkin et al., 2010; Yi et al., 2010). This is significant considering the overall numbers of sex workers in China, with some scholarly estimates of between 4-6 million in the year 2000 (Pirkle et al., 2007). Elaine Jefferies in her work *Sex in China* draws upon a number of different sources providing estimates between 4-20 million sex workers, including those that occasionally accept gifts, money or rent in exchange for sexual services (Jefferies, 2015, p. 92). As with HIV/AIDS estimates, it is impossible to ascertain an absolute number of CSWs in China. Therefore, while they are interconnected with other mobile groups, it is essential to focus on the challenges faced by this specific group and their escalating role as a potential bridging population for the spread of HIV.

Contemporary studies have been undertaken concerning the impacts of sex workers as bridging populations between high-risk groups and the general population in China (Jin et al., 2010). This is confirmed Pan (2006) and Yi et al. (2010) who have done noteworthy research on the structural hierarchies of sex workers. However, they comment that the HIV risk and lack of ability to negotiate safer sex is increased in the lower level of sex work such as streetwalkers. Moreover, there are many different types of sex worker and variations in sexual practice and risk (Parish & Pan, 2006; UNAIDS, 2011, p. 20; Yang, Latkin et al., 2010, p. 293). This is also established by Burger (2012) who presents seven tiers of sex work (to be elaborated on in chapter four), namely: Tier one, *-Ernai*; Tier two, *Baopo Baopo*; Tier three, *Santing*; Tier four, *Dingdong* girls; Tier five, *Falangmei Falangmei*; Tier six, *Jienu* Sex

workers; and Tier seven, *Xiagongpeng*. Overall, the numbers and different hierarchies or tiers of CSWs present a formidable challenge to HIV/AIDS outreach programs, treatment, prevention and education efforts.

These challenges are highly prevalent when examining issues surrounding condom usage as highlighted in much of the literature. It has been well documented that CSWs multiplicity of sexual interactions with both commercial clients and non-commercial partners can lead to sub-optimal condom usage (Hu et al., 2010; Jun et al., 2009; Knutsen, 2012; Merli & Hertog, 2010; Wang et al., 2009; Yang, Latkin et al., 2010; Yi et al., 2010). Disinclined to use condoms with non-commercial partners, CSWs are also often the least powerful in negotiating condom usage with clients therefore researchers recommend that they cannot be held solely responsible for prevention methods (Pan, 2006; Yang, Latkin et al., 2010; Yi et al., 2010). As such clients need to become more of a focus in prevention programs and more research in this area is essential. While not a focus of this thesis, the role of clients in FSW networks will be considered and contribute to the limited information available.

In conclusion, it is clear from review of the existing literature that there are still significant gaps in present understandings of HIV/AIDS as a non-traditional (human security) threat. This is particularly so in the mobile and marginalised populations in China. China's representatives in UN General Assemblies have indicated that they do not fully adopt human security frameworks. Additionally, the literature reveals a need for further research into the ways in which the PRC are currently addressing the needs of PLWHA and whether they are achieving success in populations that are highly mobile, marginalised and stigmatised. IDUs, FSWs and floating labour migrants face unique challenges in accessing health initiatives that need to be further understood in order to successfully address the expansion of HIV in China. When considering the high rates of infection found in these populations, research such as that being undertaken in this thesis is essential to add to the existing literature on HIV/AIDS, its implications as a non-traditional security threat, and the lack of human security faced by these mobile people groups.

## **Thesis structure**

The introduction and thesis overview provides an introduction to the thesis topic, the theoretical frameworks and study limitations. An essential component of the introduction is

the presentation of the questions informing the research. Additionally, it includes a review of the relevant literature discussing the ramifications of HIV/AIDS as a non-traditional security threat to China and its proximate states. Besides which it reviews the literature on China's HIV/AIDS epidemics, particularly those most applicable to the thesis research cohorts (FSWs, PWID and floating migrants). Moreover, the introduction highlights the significance of the thesis and the important contribution it makes to the body of knowledge concerning HIV/AIDS as a non-traditional (human security) threat in mobile and marginalised populations.

Chapter One titled 'Non-traditional security' provides the theoretical foundation for considering HIV/AIDS as a non-traditional security threat. It ascertains the implications of securitising the disease and discusses HIV/AIDS impacts on the human security of PLWHA and whether current insecurities contribute to the expansion of HIV/AIDS in China. Additionally, it considers the ongoing debate by scholars of International Relations concerning the definitions of human security and their applicability to the HIV/AIDS pandemic. China's disinclination to adopt the concept of human security and the ramifications of their current frameworks are also considered. It queries whether there is any gap between international human security practice and China's official state practices in perceiving HIV/AIDS as a non-traditional human security threat. Additionally, the PRC's current policies concerning non-traditional security and in particular human security threats are examined.

Chapter Two, titled 'HIV/AIDS Overview', provides an overview of the pathogenesis and epidemiology of HIV in order to highlight the problematic nature of the virus. The virus poses significant challenges for PLWHA. Understanding how the virus is introduced into the body and the ways that it overcomes the immune functions of the host provides readers with the necessary framework for comprehending the difficulties faced by researchers attempting to create vaccines and efficient anti-retroviral medications. The chapter then discusses the various strains of the virus, how they form recombinants and the specific strains found within the provinces in China. The role of STIs and the manner in which they are inextricably linked to, and exacerbate, the ongoing spread of HIV is described. Finally, the chapter provides a rendering of the history of HIV/AIDS globally.

Chapter Three, titled ‘Global Best Practice’, introduces the concept of global best practice (GBP) for dealing with HIV/AIDS epidemics. These practices have generally proven to be successful over a range of scenarios and are readily adaptable to country specific epidemics. It specifically deals with the three most current practices, treatment as prevention, ‘Know your epidemic, Know your response’ and the cascade of care. Furthermore, it comments on more long-term strategies including stigma reduction programs, condom distribution, and MMT and syringe programs. It then examines the PRC’s adoption or lack thereof of HIV/AIDS GBP within China. It also considers China’s current policies and practices concerning NGOs, in particular INGOs, and how their efforts are aided or otherwise by the PRC.

Chapter Four, provides a historical overview of the disease in China. There are four distinct stages within China’s handling of HIV/AIDS from the first encounter until the present time. Phase one – the introduction phase provides information of how HIV/AIDS was first uncovered in China; Phase two concerned China’s classification of HIV/AIDS as a western disease resulting in delayed action; Phase three was the diffusion period in China’s epidemics where HIV was spreading rapidly throughout key populations; Phase four is the current stage where rampant prevalence has seen the virus become sexually driven and generalised in certain populations. Additionally, this chapter, titled “History of HIV/AIDS in China and Yunnan” examines the current situation of HIV/AIDS in China’s Yunnan Province and whether the cultural diversity within Yunnan adds to difficulties in delivering HIV/AIDS programs.

Chapters Five, ‘HIV/AIDS Key populations in China’, considers key populations in HIV/AIDS epidemics. The chapter gives a brief overview of the various pathways for the spread of the virus throughout key populations and among the general population. A population is considered key in HIV/AIDS epidemics due to generally high infection rates and the role that they can play in spreading HIV. They are also considered key populations due to the vulnerability they face whether through systematic violence, risk behaviours or mobility. These key populations include CSWs, PWID, HIV+ pregnant women, FPD and MSM. Moreover, the impact of PRC laws regarding the criminalisation or illegality of FSWs, IDUs, and undocumented workers will be considered in light of the spread of HIV/AIDS in Yunnan and nearby areas.

Chapter Six, titled 'Field Research in Yunnan' provides data from field research undertaken in China. The specific cohorts of this thesis (FSWs, PWID and floating migrants) are examined in some depth and in the Chinese context. The chapter also reveals the shortfalls and challenges in HIV/AIDS prevention and treatment programs within China. Discussions took place with NGOs and CBO dealing with the specific cohorts within China. Some of the programs currently underway in China were also discussed as were the current funding shortages. There were limitations in accessing people willing to discuss the situation due to the PRC's reluctance to release data but it was possible to visit a number of programs and outreach centres during the course of the field research and the information is presented in this chapter.

Chapter Seven, titled 'Impacts of insecurity in HIV/AIDS epidemics', considers the burden HIV epidemics place on populations and the threat they pose to China and its neighbouring states. This chapter highlights the pillars of human insecurity: economic, food, health, environmental, personal, community and political security as the elements of human security most threatening in HIV/AIDS situations. Understanding the impacts of human insecurity in HIV/AIDS epidemics provides a scaffold for the thesis's contention that human security is a legitimate and useful framework for understanding China's HIV/AIDS epidemics. Moreover, that using such a framework will assist in addressing both the challenges and shortfalls of existing programs.

The conclusion is an overview of the thesis. It contextualises the HIV/AIDS situation in China and considers both the ramifications of HIV/AIDS on China's state security, and the human security threats faced by PLWHA. In doing so it identifies the shortfalls in existing programs and highlights the challenges inherent in managing HIV/AIDS epidemics within China. Areas identified as requiring further research and specific recommendations and research outcomes are also discussed. Ultimately the conclusion makes the case for HIV/AIDS prevention and treatment programs to operate from the bottom up in accordance with human security frameworks placing the individual as the referent object.



## **Chapter one: Non-traditional security**

*"The Foolish Old Man" Removes a Mountain.*

愚公移山

### **Introduction**

HIV/AIDS is a non-traditional threat to security both on a macro (state/governmental) level and micro (individual) level. Epidemics damage states from the inside out. They cause problems between proximate states and damage national economies. On the macro level there are several reasons for this, including cross border migration increasing the probability of HIV infections; loss of economic revenue; over-burdened health systems; and increasing costs, as HIV/AIDS becomes a chronic health issue. Additionally, there has been continuing debate about the effect that HIV/AIDS epidemics have on state militaries. On the micro level individuals suffer from the fear of stigmatisation; poverty, harassment and imprisonment, lack of food, lack of shelter and inability to access the medicines needed to ensure their survival.

Non-traditional security is a concept that has continued to come to the fore in the present globalised world. Economics, governance and issues such as climate change, terrorism, disaster preparedness and pandemic disease have been elevated from being strictly a concern for nation-states and local communities to being concerns for the global community. When an issue that does not respect state boundaries affects one state, then all states (particularly those in close proximity) must of necessity intervene in an attempt to protect themselves. Indeed, these types of issues cannot be resolved or even effectively managed within state boundaries. Coadjutant responses between states, global regimes and international donors become imperative.

Human security is a term that encompasses aspects of both development and human rights. It is concerned with the individual and ensuring that their basic needs are met. It is premised on the idea that everyone should have certain expectations in life. Individuals should have their basic needs met. In human security frameworks this is classified as being free from want. Human security frameworks also insist that individuals should also be free from fear and protected from harm. Additional to the basic tenants of freedom from fear and want there are seven sub-provisions of security. These include: economic, food, health, environmental,

personal, community and political security. It is apparent that these freedoms and seven tenants should be attainable for all people. As will be discussed, this is even more the case for key populations in HIV/AIDS epidemics due to the correlation between human security (or more specifically the results of insecurity which can be defined as the absence of human security) and the drivers of virus communicability.

### **Theoretical limitations**

In affirming the appositeness of non-traditional theoretical frameworks for HIV/AIDS epidemics this thesis concentrates on their practical applicability. Therefore, while the theoretical debates surrounding definitions of human security and whether they are too broad to be helpful will be commented upon they are not the main focus of the chapter or thesis. Furthermore, beyond acknowledging that there is some deliberation about whether the securitisation of HIV/AIDS has been fully accepted this thesis does not intend to enter into the discussion. Indeed, the debate functionally posits itself within the echelons of academia and political manoeuvring and as a result has limited pertinence to the actual conditions being dealt with by individuals living with disease.

Theories of securitisation are afflicted with methodological and conceptual shortcomings but this does not detract from their operative application for HIV/AIDS epidemics. Therefore, regardless of the acknowledged importance of the myriad of conflicting debates about the scope or effectiveness of securitisation, its definitions and the complete adoption of securitisation frameworks this chapter is more concerned with concepts of human security. Additionally, it seeks to establish HIV/AIDS securely in human security schemas and considers not only their appropriateness but also their effectiveness in contributing to efforts to minimise HIV/AIDS epidemics.

Furthermore, it is beyond the scope of this thesis to analyse the different governmental and non-governmental rationale and strategies for securitising HIV/AIDS beyond the basic understandings of general threats to the state. Therefore this chapter will be limited to a brief discussion concerning non-traditional threats to security and HIV/AIDS position within that doctrine. Moreover, while HIV/AIDS has impacts on state governments this thesis predominantly considers the human security of PLWHA. Therefore, while this chapter briefly discusses the macro implications for HIV/AIDS as a non-traditional threat to security and the

resulting securitisation of the disease, it is predominantly concerned with the individual and affirming the validity of human security frameworks for PLWHA and key populations in HIV/AIDS epidemics.

Bearing that in mind, this chapter provides an overview concerning the emergence of non-traditional security theory from realist frameworks. The changing nature of the world has impacted on state security and realist frameworks while still applicable are no longer sufficient to explain the multitudinous threats that nation-states face. The chapter then examines concepts of human security that fit within the overarching concept of non-traditional security. As an adjunct to this section of the chapter, China's conceptualisations of human security will be introduced. Following from this the chapter discusses the securitisation of disease in general, and HIV/AIDS specifically, and examines the benefits and disadvantages inherent in securitisation. Lastly, the chapter considers HIV/AIDS within human security frameworks and makes the case for increased focus on the human security needs of key populations as an efficacious methodology for impacting HIV/AIDS epidemics.

### **Non-traditional security**

Non-traditional threats to security can be defined as transboundary in nature rendering state-based governance inadequate to successfully address the challenges inherent in the global issues that have been contextualised as threats. The following useful interpretation of non-traditional security suggests:

...efforts to manage transboundary security threats do not simply involve empowering supranational organisations, but primarily seek to transform state apparatuses dealing with specific issue-areas and integrate them into multilevel, regional or global regulatory governance networks. (Hameiri & Jones, 2015, p. 4)

Non-traditional security solutions require collaboration between states. The nature of the threats being faced and the globalisation of society ensure that solutions are beyond traditional arguments of sovereignty. In the realm of non-traditional security what affects one nation-state almost always results in a causal sequence of events occurring in another.

The world is a changing place. No longer is international travel the domain of the elite or governmental representatives but rather it is increasingly accessible to the everyday people. As a result, rather than limited incidences of cross border travel, there are hundreds of thousands of people travelling from place to place on a given day. National borders are

permeable. What affects one nation-state quite often has the ability to affect another, especially those in proximate areas. Nation-states wanting to engage on the global stage can no longer put up walls of sovereignty and isolate themselves from other stakeholders. Furthermore, non-state actors such as NGOs, INGOs and transnational corporations are also growing in increased importance in global affairs (Swanström, 2010). Threats are no longer just external and an expanded concept of sovereignty denotes more than the conviction that threats from outside must be repelled but also that threats from inside must be dealt with.

Traditional forms of security are rooted in realist paradigms and operate on the premise that a nation-state's main threat comes from external forces (Akaha, 2002; Alkire, 2003). They have been in place since the Westphalia Treaty of 1608 that formally established the concept of the nation-state and the sovereignty implicit to it (Swanström, 2010). As a result, the nation-state becomes the main actor and at the centre of international relations (Selgeild & Enemark, 2008). Accordingly, as proposed by Hans Morgenthau, with people being at the core egotistical and selfish, the international system is anarchic and geared towards war. In this arena, international relations are a struggle to maintain or obtain power irrespective of ethical considerations (Donnelly, 2005).

Threats are dealt with in the arena of war and success is conferred when one nation-state overcomes the oppressive advances of another. Realism considers that war is not only probable but acceptable (Donnelly, 2005). Within that framework threats such as pandemic disease, economic collapse, state failure, environmental pollution and dealing with environmental disasters have been the purview of state governments. Sovereignty is unassailable and the attempt of other nation-states to interfere in national policies concerning these previously exclusively internal dilemmas is greeted with outrage and military force.

Therefore, traditional forms of security place the nation-state as the referent object with the express purpose of protecting its territory, political boundaries, population and interests against external attempts at the arrogation of power, whether military or economic (Akaha, 2002; Bernard, 2013). National policies within this traditional, realist framework are intended to meet the needs and values of the nation-state as a whole rather than the needs of individuals within the state. Buzan, Wæver and De Wilde (1998) conclude, "Sovereignty can be existentially threatened by anything that questions recognition, legitimacy or governing authority" (p. 22). Threats are perceived as being external to the state and most likely to

manifest themselves as war or non-military coercion in the form of political and economic sanctions.

Conversely, the more liberalist non-traditional security is concerned with state threats originating discrete from, or at least additional to, the sanctions and military conflicts that operate in the domain of traditional security. Significantly, non-traditional concepts of security, such as human security, are not implemented in place of traditional concerns but are rather mutually reinforcing and complimentary in nature (Hayes & Qarluq, 2011; Swanström, 2010). Often they are transnational in nature and focus on non-military threats that affect multiple nation-states. As such, these threats may originate external to or within a nation-state and generally involve natural threats or transnational activities (commonly criminal in nature). The salient point is that they are uncontrollable and often asymmetrical in nature thus requiring non-conventional solutions.

While nation-states will always protect themselves from eternal threats and perceived violations of sovereignty, issues of environmental degradation, terrorism, transnational crime, global pandemics, national economic collapse and state failure must be solved collaboratively. This growing awareness for the need to widen the concept of security beyond traditional concepts has been occurring since the end of the Cold War (Swanström, 2010). This has had the effect of raising the profile of what have conventionally been viewed as “soft” threats to national security (Swanström, 2010). This is essential in a world where many more people die from threats to their human security, such as food scarcity and disease, than through conventional warfare (De Waal, Klot, & Mahajan, 2010). In a globalised world, the rapid growth in technology has forced the reframing of security dialogues since the cold war. Weaker communities have become more disadvantaged and social inequality more pronounced. Moreover, the likelihood of new types of security threats becoming manifest continues to increase.

Thus, international spaces are increasingly influenced by events taking place within the sovereign borders of nation-states. A security threat for one nation-state becomes a security threat for another and is of global concern. In framing these global security issues it is evident that in order for something to be considered a security threat it must first be identified and agreed upon as posing a significant risk. This process must occur whether the issue is being resolved within a state or poses a threat to other nation-states or globally. The referent

threatened must believe that they are threatened by a particular state of affairs or situation and convince others of that belief. The next section analyses the process of securitisation in order to understand how formally internal concerns have been elevated onto international arenas to become globalised threats requiring international collaboration.

### **Theoretical approaches to securitisation**

There are many schools of thought concerning securitisation. It is an evolving field of academic contemplation. As the world changes so too does the need to understand the role that security plays in the global amphitheatre. This thesis is unable to consider them all. Thus, it concentrates on ideas of critical security, which focuses on the referent of security, the nature of the threats, and whose interests are being served (Browning & McDonald, 2013). Securitisation has a performative power and is not only useful as a descriptor for a situation being securitised but can also have a transformative role (Balzacq, Léonard, & Ruzicka, 2016). Ultimately securitisation is concerned with how a security issue is determined; what should be done about it; and what are the consequences of agreeing that something is a threat? (Balzacq et al., 2016). Irrespective of the differing schools of thought within securitisation theory they share basic characteristics and are rather simply modulated by interpretations of power relations, context and agency (Balzacq et al., 2016, p. 6).

Thus, in order to grasp the foundations of non-traditional security it is useful to briefly examine the trajectory taken by securitisation scholars. Differing schools of thought in the area of critical security have risen up in order to address the variations of aim and modes of analysis among scholars (Peoples & Vaughn-Williams, 2015). However, there are limitations to the categorisation of schools of security thought. The implication in such a rendering is that all scholars within the schools are in accord. This is misleading as scholars ascribing to the tenets of these schools are in diverse locations and many more do not fit within the parameters of thought at all. Rather, it may be more useful to think of them as networks of diverse thinkers from a range of disciplines whose scholarship and dialogue on security topics outweighs their contradictory thinking (Peoples & Vaughn-Williams, 2015). For example, securitisation theory has a close affinity with social constructivism and the role of language and the practice and power of argument in global politics; speech act theory; Foucault's theory of governmentality, which provides securitisation theory with an analysis of the conditions under which entities emerge, exist and change; Bourdieu's theories on

sociology; and Schmitt's theories of political realism (Balzacq et al., 2016). Schmitt and Foucault in particular have had a continuing influence on the shaping of securitisation theory over the past decade. Understanding these complexities, this thesis considers that the two schools of thought most appropriate as frameworks for understanding the theoretical underpinnings of this thesis are the so-called Welsh (Abersytwyth) and Copenhagen Schools.

### Welsh (or Aberystwyth) School

The Welsh School of thought began with Ken Booth and Richard Wyn Jones proposing a brand of security studies that challenged existing definitions of security. Booth argued that entrenchment in traditional notions of security privileged the nation-state and preserved state regimes at the cost of the individual (Browning & McDonald, 2013). Instead of accepting previous notions of security as simply being military threats to the nation-state they considered that security should be linked to the goal of human emancipation. The nation-state should be concerned with the wellbeing of its citizens and the means for their security rather than the referent object. It is a normative approach that challenges the concept of state security and instead posits that consideration should be given to how individuals can be made secure from broader threats such as poverty, environmental degradation, and political oppression (Peoples & Vaughn-Williams, 2015). However, while they attempt to use security to advance emancipation they give less consideration to the possibility that other methodologies (such as the language of human rights, justice or economics) might be better suited to achieving such goals (Browning & McDonald, 2013). What is missing is an understanding that the goal of security is variable depending on circumstance, place and time and a singular reading fails to provide a useful ethical framework (foundational or procedural) and thus becomes ambiguous and inconsistent.

### Copenhagen school

Scholars at the Copenhagen Peace Research Institute (COPRI) prompted by socio-political events occurring at the time (such as the fall of the Berlin Wall, ethnic and interstate conflicts and the demise of the Soviet Union) began to question the sufficiency of existing security dialogues (Van Munster, 2005). The new concept of security moving away from military concerns with security sought to include the wide range of threats to human survival. They became known as the Copenhagen School. Unlike the Welsh School's explicitly normative approach, the Copenhagen School offers an analytical concept of 'securitisation' as a way to

develop security dialogues (Peoples & Vaughn-Williams, 2015). Thus, in 1998, securitisation developed as a constructivist theory.

The securitisation of a particular issue from risk to security threat requires that it be established as something that is in urgent need of attention and should therefore take absolute priority (Buzan et al., 1998). Therefore:

...security is about survival. It is when an issue is presented as posing an existential threat to a designated referent object (traditionally, but not necessarily, the state, incorporating government, territory and society). The special nature of security threats justifies the use of extraordinary measures to handle them. (Buzan et al., 1998, p. 21)

Thus, the securitisation process involves a particular issue being declared as a present threat to security (Buzan et al., 1998; Lo, 2015). These declarations are considered to be speech acts and are directed towards a particular audience (Elbe, 2010; McDonald, 2008). They only become securitised once the audience has been convinced and accepted that they are threats. The Copenhagen School considers that the act of securitisation is a “...self-referential practice, because it is in this practice that the issue becomes a security issue—not necessarily because a real existential threat exists but because the issue is presented as such a threat” (Buzan et al., 1998, p. 24). Therefore, the securitisation process is based in the identification of particular problems affecting individuals, nation-states or the international community as a whole.

Issues become “securitized” when a threat exists or is believed to exist against some fundamental values that are held by some actor, be it an individual, a group, a community, a nation, a group of nations, or an international community. (Akaha, 2002, p. 1)

Predictably, the success of the securitisation process is not determined by the entity seeking securitisation but rather by the audience (whether citizens or other stakeholders) (Lo, 2015). However, the Copenhagen School is concerned with analysing the consequences of invoking security frameworks and are sceptical about whether issues such as poverty and environmental degradation should be considered threats to security (Peoples & Vaughn-Williams, 2015). Irrespective of their concerns about which issues should be securitised they acknowledge that once a particular issue is accepted as a threat then securitisation may occur.

This thesis utilises the broadly constructivist approach of the Copenhagen School in explaining that securitisation identifies security threats as politically and socially constructed (Hameiri & Jones, 2015). Threats are not just bound in reality but constructed, spoken and accepted (Elbe, 2010). The Copenhagen School argues that:

...to 'securitise' an issue means identifying it as a threat to some cherished reference object, raising it to the top of, or even above, the political agenda and mobilising extraordinary measures and resources to combat the problem. (Hameiri & Jones, 2015, p. 1)

Elbe (2010) further suggests, "Security 'is not interesting as a sign referring to something more real; it is the utterance itself that is the act. By saying the words something is done...'" (p. 11). Balzacq et al. (2016) suggests that:

...the key idea underlying securitization is that an issue is given sufficient saliency to win the assent of the audience, which enables those who are authorised to handle the issue to use whatever means they deem most appropriate. In other words, securitization combines the politics of threat design with that of threat management. (p. 3)

Securitisation then is the identification of something as a security threat and its acceptance by others in such a manner that authorities are enabled to manage the threat.

### Securitisation of disease

The securitisation of infectious disease is not a new phenomenon. During outbreaks of disease such as the bubonic plague and influenza nation-states have rallied to address the urgent need to halt their spread throughout communities and lessen their impact on state economies and institutions (Peterson, 2002). It is beyond the scope of this thesis to consider all aspects of the securitisation of disease (including biological terrorism) or indeed comment on the many differing viewpoints throughout the field of security studies. Rather, it focuses on the more pertinent aspects of securitisation of disease as related to infectious disease and HIV/AIDS in particular.

As presented previously, a seminal change has occurred in recent decades with the securitisation of specific diseases and their linkage to the core interest of nation-states (Elbe, 2012; Fidler, 2015). This is particularly the case in today's world of high mobility, predominantly via air travel, resulting in shared risk and the fear of the rapid presentation of pathogens or biological agents, whether intentional or unintentional (Tappero, Thomas, Kenyon and Frieden, 2015). Infectious disease clearly represents transnational threats to

security (Campbell, 2012). As discussed in a subsequent section, this change has been driven by the securitisation of HIV/AIDS and successive infectious disease such as SARS and H5N1 influenza.

While the securitisation of disease means that extraordinary resources are allocated towards the treat, this may not be universally perceived as positive. Moves toward the securitisation of disease means that the agents of disease, or referent and external threat source (in this case disease as external to the traditional workings of a nation-state and possibly the state itself), are locked into the logic of securitisation (Davies, 2008). Consequently, the simple presentation of a disease as a threat makes it a security issue whether a real existential threat exists or not (Davies, 2008). This has implications for the manner in which disease is contextualised and thus approached. As a result there are extant debates about whether or not disease should be securitised at all.

### **Debates concerning the securitisation of disease**

The securitisation of disease is a disputed concept. In general, securitisation theory when applied to disease and global health focuses on the normative and methodological aspects: should health be securitised and how is the success of securitising moves measured? (Balzacq et al., 2016). In general scholars and practitioners assessing the benefits of the securitisation of disease agree that there are both positive and negative consequences. This section of the chapter briefly presents some of these arguments to further clarify the impacts of securitisation. In doing so, it is clear that while the negative consequences are real they are alleviated by the positive outcomes, or usefulness, of mobilising resources to address the challenges of disease.

#### **Negative proponents**

Negative proponents for the securitisation of disease generally object to either the process or outcome of securitisation (Roe, 2012). Among security scholars there are those who believe that the securitisation of disease, particularly in human security scenarios, creates the possibility of flaws in policy. The question of whether or not health problems actually comprise a security threat is important, as are guidelines for how they correspond with other security concerns (Peterson, 2002). In the context of securitisation, silence and speed are preferred over the debate, deliberation and consideration of the rules and procedures of

normal government (Roe, 2012). In essence, securitisation is bad for democracy. There are also concerns that the securitisation of HIV/AIDS will activate the ‘threat-defence logic’ where armed forces would receive highest priority health services and medical treatment (Balzacq et al., 2016). Within this scenario some fear that health perceived as less important and justifiable only in terms of its impact on national security (Davies, 2008; Gündüz, 2006). The referent becomes the disease, and its impact on the state, rather than the individual living with disease. Bodies in essence become battlefields rather than the reason for battle to take place (Elbe, 2012). In this situation the political effects of health security may lead to the sacrifice of an individual’s human security in the name of the greater good or collective security (Nunes, 2014; Selgelid & Enemark, 2008; Stephenson, Davis, Flowers, MacGregor, & Waller, 2014; Vieira, 2007). Yet, there is some concern that without a link between epidemic disease and national security, elites will pay little attention.

Aldis (2008) and Ketterman (2006) question whether framing a disease as a threat to human security is helpful, arguing the outcome of securitisation can lead to an us:them binary. Furthermore, Roe (2012) argues that securitisation pushes responses to disease away from the transparency of civil society towards the opaque workings of military and intelligence organisations, which creates the potential for violations of human rights and civil liberties (Roe, 2012). A direct result of these misunderstandings may be the discrimination of individuals, refusals to share data and restrictions on civil liberties (Wishnick, 2010). Additionally, there are some fears that an extreme focus on a particular threat may leave nation-states open to other threats as their bureaucratic organisations, and human and financial resources become consumed by the issue considered highest priority (Balzacq et al., 2016).

Aldis (2008), Newman (2010) and Pitsuwan and Cabellero (2014) also argue that all definitions of human security are contested therefore it is analytically weak and too broad to be functionally appropriate. Elbe (2010) and Hindmarch (2016) agree, positing that when applying human security frameworks everything considered detrimental to an individual’s ability to achieve fulfilment becomes a threat to their human security and thus loses analytical usefulness. Having such a broad focus can possibly lead to misunderstandings and breakdowns on global collaborations and dialogues (Aldis, 2003). It is clear that there is some validity for the arguments presented by the negative proponents but while acknowledging the negative concerns it is essential that they be weighed against the positive outcomes.

## Positive proponents

The positive proponents of securitisation of disease within human security frameworks are concerned with the benefits conferred by being placed in the global spotlight. A positive securitisation embraces the concept that securitisation need not be militaristic and dismissive of due process but rather that human connectedness and shared values such as compassion, justice and dignity cut across existing social and political divisions (Booth, 2007). When diseases such as HIV/AIDS become securitised they attract attention as urgent problems and therefore proportionate resources for addressing the problem (Wishnick, 2010). Concerns for the ability of infectious disease to incur high rates of mortality also come to the fore in securitised frameworks (Peterson, 2002). As a result of this surveillance mechanisms are improved and there is an added focus upon early warning and prevention efforts (Fakuda-Parr, 2003). Korc, Hubbard, Suzuki, & Jimba (2016) advise:

The Institute of Development Studies in the United Kingdom suggested that adopting a human security framework would improve the post-2015 agenda by acknowledging interactions among different threats, promoting more cross-disciplinary thinking, addressing in-country inequalities, creating more linkages between people and their governments, and transcending borders of all types. (p. 10)

Moreover, with an increased focus on infectious disease due to securitisation there also emanates an increased will to address issues of stigmatisation and maintain sustainable budgets (Lo, 2015).

Ultimately, for many who are interested in promoting the usefulness of human security frameworks in addressing infectious disease academic debates are somewhat superfluous and incidental. They are more concerned with the functionality of human security in protecting individuals from fear and want. In this context addressing the needs of those who are perilously insecure is paramount (Newman, 2010). Significantly, since the release of the 1994 UNDP development report understandings of human security have continued to expand to become holistic and more development orientated (Lisk, Šehović, & Sekalala, 2015). When the basic human security needs of individuals are dealt with they become more likely to become actively involved in contributing to sustainable long-term security solutions within their communities, their nations and eventually within the global commons.

## **Securitisation of HIV/AIDS**

The idea that AIDS posed a threat to security was being debated as early as 1987 (McInnes & Rushton (2010). But it was not until July 2000 HIV/AIDS formally became securitised with the passing of Resolution 1308 at the UN Security Council (see appendix 1). Gore (2000) addressed the Security Council by introducing AIDS as a combatant in a field of war – the war against AIDS was to begin in earnest. In the act of securitising AIDS he used realist language and traditional concerns with security to highlight the severe nature of the threat being presented by the AIDS epidemic. For the first time AIDS became a focus of the UN within the context of a non-traditional threat to security. Previously it had been solely contextualised as a medical problem to be dealt with by sovereign states.

HIV/AIDS was presented as an immediate threat to military and peacekeeping forces (Singer, 2002). At the time of its securitisation it was believed that AIDS would contribute to instability by wreaking devastating losses on security forces (Rushton, 2010). Security forces were perceived to have higher infection rates than other cohorts and that peacekeepers, through high-risk behaviours, could be implicated in the spread of HIV/AIDS. Essentially, claimed Fourie and Schönteich (2001): “War is an instrument for the spread of HIV/AIDS” (p. 35). Indeed, Annan (2000b) proposed that the destructive nature of AIDS was no less destructive than warfare itself and that in some ways it was worse. He elaborated that it overwhelmed health services, cause economic crisis and threatened political stability.

Significantly, there is evidence that HIV/AIDS may contribute to the instability of states particularly those more vulnerable due to other factors (Feldbaum, Lee, & Patel, 2006). In addition, it is also argued that it poses “...diverse threats to human security and to national and international security” (De Waal et al., 2010, p. 25). Singer (2002) argues that the presentation of HIV/AIDS as a security threat strengthens reactions to the disease, not simply due to altruism but in the pursuit of self-interest. In securitising HIV/AIDS through the UN Security Council it is hoped that due to its high profile and status in international law the UN will be able to apply political pressure and encourage governments to address the issue through early and prompt responses to the pandemic (Elbe, 2006).

With the adoption of Resolution 1308, the securitisation of HIV/AIDS was thought have been accepted unanimously. However, Fourie and Schönteich (2001) queried its classification as a

security threat (although conceding that in terms of post-Cold War human security regimes it did pose a pervasive and non-violent threat to the existence of individuals) because it did not fit into the traditional military framework of security. McInnes and Rushton (2012) agree with this stance commenting, "...it is not obviously a security issue, at least not in the narrow national/international security sense" (p. 17). Notwithstanding, the belief that HIV/AIDS impacts the security of states has been widely accepted and requiring exceptional responses (McInnes and Rushton, 2012).

The securitisation of HIV/AIDS is generally performed within the framework of human security. Therefore this chapter now considers the concept of human security. Seeking to understand and frame threats is rarely undertaken by individuals but rather, is pursued through dialogue or speech acts between governments (Elbe, 2010). However, the referents of these speech dialogues are individuals. In acknowledging the individual as the referent it has become possible to reframe security to identify those things that most hinder the ontogenesis of freedom from fear and want for individuals in global contexts.

### **Human security**

Within the context of globalisation the individual has become an important focus of security dialogues. Security agendas have been elevated beyond the confines of state-centric ideology to incorporate considerations of the pervasive threats faced by individuals. Issues such as poverty and infectious disease affect individuals within states and therefore, inevitably, the state itself. Within the realm of non-traditional security human security frameworks have emerged to address the needs of individuals.

There are a number of different definitions concerning human security. In order to understand how it is applied in this thesis it is important to provide an overarching definition. In general most definitions encompass many of the same concepts, with freedom from fear and want featuring prominently in the majority of definitions. Ramesh Thakur, describes it as referring to the quality of life of a people or polity (Thakur, 1997 cited in Annan, 2001). Yukio Takasu (2000), the UN Under-Secretary-General for Management has previously described human security as preserving and protecting the life and dignity of human beings. Van Ginkel and Newman (2000 cited in Annan, 2001), describe it as a comprehensive security that is both integrated and sustainable.

While all of these definitions are applicable this thesis adopts the UN broad definition presented in the introductory chapter (see p. 6) stating that human security can be encapsulated as freedom from fear and want. The rationale for doing so is that it is most applicable for comprehending the needs of marginalised and mobile populations in HIV/AIDS epidemics. This definition makes it is apparent that human security is concerned with the individual and ensuring that they have the freedom to make their own choices and the opportunity to fulfil their potential. This definition was expanded (UNDP, 1994, pp. 24-25) to incorporate seven specific threats to human security: economic, food, health, environmental, personal, community and political. These specific threats to security and how they apply to PLWHA will be discussed in depth in chapter seven.

Moreover, rather than simply addressing the rights of individuals and the threats they face, human security also seeks to incorporate an individual's development needs into discussions and action. It creates a framework for disparate communities to discuss concepts of security beyond traditional concerns (Christie, 2010). Therefore human security shares conceptual space with ideas of human rights and human development (Alkire, 2003). Indubitably, for human security initiatives they are parallel roads leading to the same desired outcome – the right for individuals to live free from fear and want.

The assumption of human rights has been in existence for decades. As early as 1941 Theodore Roosevelt was addressing the idea of human rights among his message concerning four fundamental freedoms in his State of the Union Message (Kettemann, 2006). He articulated that freedom means the supremacy of human rights universally and that people should be fighting for the rights of individuals everywhere (Burgers, 1992). He further explicated the concept to include the notion that true freedom means being “free from fear and want” (Elbe, 2010). It was here that the term was first vocalised.

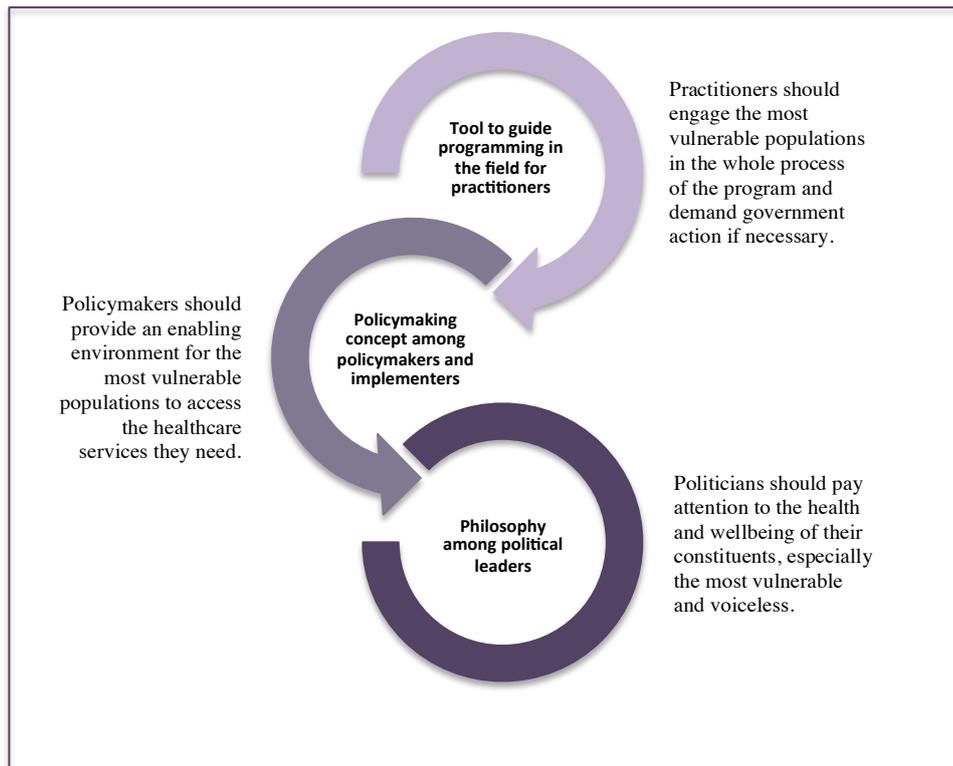
While Roosevelt was discussing human rights it is also applicable to the realm of human security (human security incorporates notions of human rights). Later it became a foundational philosophy in defining human security's basic tenants, as introduced by Kofi Annan in addressing the UN Security Council in 2000. When presenting the concept to the UN Security Council (see pages 6-7 for the definition) Annan built upon the understandings of President Roosevelt fifty-nine years before. Moreover, the concept of human security has continued to be clarified and refined by the UN in the decades since Annan's declaration.

As a concept human security is focused on creating feasible solutions that address the particular rights and needs of people rather than states. It is protective and normative and involves reshaping security dialogues around the individual. Newman (2010) suggests that human security "...seeks to challenge attitudes and institutions that privilege so-called 'high politics' above individual experiences of deprivation and insecurity" (p. 79). When the people become the referent object then security must be built from below at the level of the individual (Dahl-Eriksen, 2007). Additionally, human security dialogues provide opportunities to identify linkages between distinct factors and address issues that may have been neglected (Fukuda-Parr, 2003).

Ultimately human security should protect the individual from critical pervasive threats and enable long-term human fulfilment (Alkire, 2003). It is concerned with the sanctity of the individual and the community and the preservation of life (McIntosh & Hunter, 2010). Hudson (2009) advises, "In this way, emphasis shifts from a security dilemma of states to a survival dilemma of people" (p. 163). It becomes focused on the actual conditions that threaten insecurity in daily life and sustains the dignity of individuals (Martin & Owen, 2010).

Therefore, human security provides a crucial scaffold for shaping responses to the ever-present threats faced by states and individuals in current global environments. Because institutions and actors primarily implement policy, the focus is on top-down interventions whereas vulnerable populations face human insecurity from a bottom-up micro level (Lemanski, 2012). Therefore a more useful mode of delivery is a "...dual strategy of bottom-up empowerment balanced with top-down policies" (Chen, & Takemi, 2015). Thus, unless the needs of individuals are paramount in creating policy, effective and sustainable change will remain elusive. Thus human security can serve three roles in shaping responses to health emergencies (see figure 5, page 52). Firstly, it can be used as a philosophy that prioritises the attainment of human freedoms (freedom from want, freedom from fear and the freedom to live with dignity) within government policies; secondly, it can be used as a tool to generate policy at governmental and institutional levels that will enable individuals to undertake action that will allow them to fulfil their potential; Lastly, it can be used by practitioners to guide their programming in the field in order to reduce the sources of vulnerability and mitigate the threat to the lives of individuals (Korc et al., 2016).

Figure 5. Human security's role in the health field



Sourced from: Korc et al. (2016, p. 10)

The idea that successful intervention can only be achieved by addressing the needs of individuals was tacitly promoted in the United Nations Development Programme (UNDP) report presented in 1994. In that report the margins of human security, under the umbrella of non-traditional security theory, were enlarged further to identify seven main assumptions necessary for the realisation of human security for individuals (Nishikawa, 2009). In order for individuals to fully obtain human security they must be protected from threats affecting:

...economic security (poverty, unemployment, homelessness), food security (under nourishment, famine, hunger), health security (disease, infections, insufficient health care), environmental security (degradation, pollution, natural disaster), personal security (physical torture, war, crime, violence), community security (ethnic tensions, oppression, discrimination) and political security (repression, torture, ill treatment, human rights violations). (Gündüz, 2006, p. 53)

Significantly, while engagement in war does produce a substantial lack of human security there are many more situations having pronounced impacts on the safety and security of individuals. Additionally, many of these insecurities are interconnected and lack of human security in one of these areas often leads to a lack of human security in other areas.

Importantly, many of the dialogues surrounding human security make note of the theory's express collocation to the many challenges faced by individuals. The UNDP report (1994) highlights the fact that "For most people, a feeling of insecurity arises more from worries about daily life than from the dread of a cataclysmic world event" (p. 22). Further, that human security is people-centred and concerned with how they live and breathe (UNDP, 1994). All types of insecurity have an effect on PLWHA, and these will be presented comprehensively in chapter seven. At this point suffice to say that human (in)security and the vulnerability of individuals, particularly those who are marginalised and stigmatised, has a profound effect on health outcomes. The individual must be the main point of reference in order to effectively address epidemiological concerns. To reiterate, HIV is passed from individual to individual therefore prevention efforts must concern the individual.

Conversely, in public health scenarios the HIV+ individual remains important only as a vector for the spread of disease. The human security of individuals is subsumed in the overarching policy goals concerned with halting the spread of the disease, especially within the general population. This is the situation in China. While the PRC has made some inroads into dealing with HIV/AIDS its focus remains on the disease rather than the individuals. While there are some indications that this may be changing, the human security needs of PLWHA are not paramount. Aside from some programs run by (relatively) independent CBOs at a grassroots level HIV/AIDS treatment and prevention services are offered mainly in relation to the greater public good. While this seems appropriate on a surface level it does not deal with the underlying causes for the spread of HIV/AIDS among populations.

### **China's concept of people's safety**

Ideas of human security have been aired in China since the late 1990s and generally greeted with suspicion and wariness (Shen, 2014). They do not engage with the definitions emanating from Western schools of thought but rather couch their understanding in terms of broader concepts of 'people's safety' (Chu, 2002). The main reason for this is the PRC's insistence on maintaining the traditional prioritisations of sovereignty. Events occurring in China are therefore China's concern and outside forces should not be interfering in sovereign issues. Additionally, China's past history and current challenges in managing the many disparate nationalities and ethnic groups within its borders has an impact of the breadth of its interpretations regarding human security (Chu, 2002). That being said, they do acknowledge

the need to protect the safety of the people, which may be loosely compared with the precepts of human security.

At the sixty-fourth UN General Assembly La Yifan of China explained China's understanding of the concept of human security as a broad and abstract idea pertaining to many different fields that did not enjoy international consensus (UN, 2010). Further, that China considered it was governments that retained the primary responsibility for the security of their citizens (UN, 2010). However, due to international influences they have undoubtedly begun to recognise the need to generate discussion concerning the idea of individual safety. Chu (2002) states:

Human security means protecting people. The Chinese government and people have no problem accepting and following the idea of protecting their people, but they regard such human security issues as ones of human safety, not of "security."  
(p. 9)

Within China the language of human security has been translated to be broad allowing for maneuverability and adaptation by the PRC. Xiao (2015) argues that China acknowledges that the security for people to develop and survive is fundamental to their notions of security. Further, that this is well represented in the Chinese dream<sup>6</sup> (Xiao, 2015). It is probable that over the decades since the 1994 UNDP report that China has been incrementally engaging with notions of human security within political discourse (Shen, 2014). That the scope of security is being broadened to consider people's safety, regime and system security alongside the overarching concerns with national security (Chu, 2002).

This needs to be understood in terms of China's definitional application. What might be considered a legitimate incursion into the realms of human security according to Chinese definitions may not fully resemble generally held concepts. Basically, China follows a developmental approach to human rights. Rather than thinking in terms of 'freedom from fear' and 'freedom from want', Chinese leaders and academics promote a non-traditional, state-orientated approach (Shen, 2014). While it does have some comparable objectives with that of human security they follow a modified approach that still places the state as the primary referent.

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<sup>6</sup> In his first month Chinese President Xi Jinping proposed the *China Dream* calling for a great rejuvenation of the Chinese nation resulting in: prosperity, the strengthening of society and the military, and a common dream for all Chinese people under the socialist party rule.

In attempting to understand China's usage of people's safety concepts it is helpful to consider the language of their security dialogues. Shen (2014) informs that there are two distinct translations of human security within Chinese academic and policy literature. *Ren de an de quan* and *ren lei an quan* both refer to human security in general but have subtle differences denoting the level of people-centeredness. The first term is more ambiguous and can be interpreted in terms of both 'individuals' and 'people' in a collective sense (Shen, 2014). The second is more concentrated on more general renderings such as 'people', 'mankind' or 'humanity' meaning individual aspects of humanity should be more correctly understood in a 'universal' manner (Shen, 2014). The terms are somewhat interchangeable but it should come as no surprise the latter, broader term is chosen for Chinese translations of the 1994 UNDP report (Shen, 2014).

In practical terms, within HIV/AIDS and other public health situations, China still operates from a collective people viewpoint. There reasons for this appear to be twofold; the first is grounded in their broad people safety framework; the second due to their greater political agendas concerning their expansions as a major economic power. China is a country questing for perpetually increasing economic development. It is a one-party authoritarian regime and as such much of its legitimacy is derived from its successful attainment of economic growth (Lo, 2015).

Inevitably, compromises are made and pursuing short-term economic development may lead to the lower prioritisation of health and disease prevention (Lo, 2015). The PRC then are faced with hard choices for the management of risk (Wishnick, 2010). The moves towards increased economic growth and development take the focus away from national health may indeed be one of the main risk factors for the spread of HIV in China. This is because, for the main part, their public health infrastructure has been disregarded. In such a situation people's access to health services, and right to health security, cannot be guaranteed especially for those who are living in poverty (Chan, Lee, & Chan, 2009). China's policies concerning external intervention in national affairs have meant that public health has been considered to be an exclusively domestic problem. As has been shown in past epidemics, such as HIV/AIDS and SARS China has consistently minimised the international implications of emerging health emergencies within its borders. While this has changed somewhat, it would be premature to consider that they have adopted an attitude of transparency in the

international arena; their health governance has remained state-led (Chan et al., 2009). As yet the human security concerns of individuals have gained no traction in state dialogues.

## **Conclusion**

Non-traditional threats to security have emerged on global political agendas in response to the identification of ever expanding threats in a globalised world. Traditional security approaches, while still of paramount importance, are no longer the sole preoccupations of state governments. Non-traditional issues such as pandemic disease, environmental degradation, transnational crime and terrorism have been catapulted onto political security schedules. As a result of these expanded concepts of threat, human security frameworks have been developed and implemented in order to understand the conflux of dangers apparent in contemporary transboundary circumstances.

The concept of human security was introduced internationally with the release of the UNDP 1994 Human Development Report. Having generated a scaffold to explain, and attempt to address, the myriad of insecurities faced by individuals in a globalised context, it serves to entwine concepts of human rights and development in practical ways. The seven subclauses that extrapolate on the basic principles of ‘freedom from fear’ and ‘freedom from want’ include; economic security, food security, health security, environmental security, personal security, community security and political security.

HIV/AIDS was securitised by the UN Security Council in 2000 and has undergone subsequent refining processes over the intervening decades. While debates remain concerning its veracity as a securitised concept there seems little disagreement concerning the very real threats to human attainment inherent in the disease. Securitisation of HIV/AIDS while initially implemented using traditional security language focusing on the threats to states rather than the threats to individuals considers individuals as the referent object. Still, due to the military repercussions of burgeoning HIV/AIDS epidemics being prioritised, the day-to-day human security of PLWHA and other stakeholders has been of secondary concern.

In order for issues to become securitised they must be communicated to an audience who then agrees with their identification as a threat. The Copenhagen School describes this as a speech act and explains that the securitisation occurs at the moment it is elucidated as a threat

rather than its basis in any real threat. A threat is a threat because a collective group of people agree that it is. This can cause stakeholders to debate issues of definition and application when responding to problems, particularly when using broad human security definitions about what constitutes a threat.

This has been an issue of contention among scholars for decades. The positive and negative proponents both put forward valid arguments for their position. The acceptance of human security frameworks lies in the belief that the positive outcomes for the securitisation of threats such as pandemic disease greatly outweigh negative considerations. While it is possible that securitisation may concentrate attention on the level of the nation-state rather than the individual it does highlight that there is an issue. It also attracts resources and results in dialogue between stakeholders. Within securitisation frameworks human security serves to draw attention to the needs of the individual as a way to positively impact the actions of the nation-state.

However, in China the concept of human security has not been embraced. Rather, they believe that the state is the progenitor of security understandings and thus responsible for ensuring the collective safety of its citizens. People's safety does share some conceptual space with human security discourse but has at its core a predisposition to reference individual security within broader, universal security frameworks. This has been exacerbated by their pushing for economic progression resulting in their focus being drawn away from meeting the health needs of the population in the pursuit of economic ascendancy.

Without sustained political will in health settings there is little chance of effective engagement in the health security of individuals. China has yet to fully accept the securitisation of HIV/AIDS. However, they have begun to more fully engage with, and acknowledge the need for, non-governmental and international participation. Albeit, they still hold to the belief that dealing with the HIV/AIDS epidemics within their borders are ultimately the internal responsibility of the state. Therefore the lack of transparency that currently results in a paucity of data, particularly data that fully identifies the extent of the epidemic within their borders, is deemed justifiable. Despite China's stance, when the non-traditional threats are not containable within national borders they must be discussed and dealt with on a global level. This is particularly the case for pandemic disease. Ultimately,

HIV passes from person to person and it is in those spaces that real impact must happen so that the disease may be defeated as a global security threat.

## **Chapter Two: HIV/AIDS overview**

*Disease comes like a fall from a mountain but leaves like coiling silk*

病来如山倒病去如抽丝

### **Introduction**

The previous chapter's examination of HIV/AIDS as a non-traditional security threat has provided a foundation for understanding the threat that HIV/AIDS poses to both individuals and nation-states. Lack of human security adds to the complexities inherent in the management of HIV/AIDS epidemics. This chapter considers the main drivers of the HIV/AIDS epidemic in relation to the pathogenesis and epidemiological functions of the virus. Its value within the context of this thesis lies in the provision of a clear understanding of the complexities involved in dealing with the disease on a political, social and individual level. Understanding the various challenges inherent in dealing with a virus of such adaptability and diversity provides a foundation for understanding the need for non-traditional security viewpoints, and human security dialogues, to be implemented in continuing discussions concerning treatment and prevention.

Therefore, the chapter will provide a rudimentary, but sufficient, representation of the molecular mechanisms used by the HIV-1 virus to enter the body and begin the process of infection. This is important because the way the virus uses the human body to progress its own replication has a direct correlation with the behaviours of individuals. Knowing the 'how' enables researchers to provide the general population with the information required to make informed decisions about their own health. It also enables, governments and civil service institutions to focus prevention efforts on programs that are likely to be most efficacious in rendering the HIVs incursion methods ineffective.

In addition, knowing the 'how' enables researchers to develop drug treatment regimes that are specifically targeted at stopping the replication of the virus by preventing, among other things, fusion between the envelope and target cell receptors. In order to counteract viral drug resistance, recombination between different subtypes (or clades) and reduce viral shedding, epidemiologists and other researchers must attempt to comprehend not only the myriad of reactions occurring within the virus but also the distinct immunological reactions

implemented by the host. The ultimate goal of such efforts is the development of an effective vaccine functional across the many types, subtypes and recombinants.

Moreover, this chapter will consider the global context for HIV/AIDS and provide a brief overview of the spread of the disease over the past almost thirty years since it was first identified. The history of China's HIV/AIDS epidemic will be addressed in the following chapter. Understanding that similarities and differences of HIV/AIDS epidemics, within the context of a global pandemic,<sup>7</sup> will provide a clearer understanding of why this thesis considers that it is essential for China to address the shortfalls in current HIV/AIDS programming. There are challenges in all HIV epidemics, some of them cultural, some of them economic, and some of them due to lack of commitment by central governments in swiftly addressing the spread of HIV within their borders.

This chapter will then provide an identification of the HIV-1 strains common to China's epidemics, and a brief overview of China's ongoing STI burden, in an attempt to understand the changing dynamics of the spread of HIV/AIDS from PWID, FSWs and mobile populations into the general population. MSM, MTCT, FPD, although worthy of further research, are beyond the scope of this thesis and will only be briefly considered in context of their impact upon the thesis cohorts and when providing valuable information on China's overall HIV epidemiology. Understanding the pathogenesis of different strains of HIV allow policy makers and researchers to trace the epidemics back to the source and provide valuable information on behavioural drivers and required ART regimes.

As such, this brief overview of HIV/AIDS highlights the importance of the research being undertaken in this thesis. The HIV virus is adaptable, efficient and lethal. Without effective intervention agendas, such as those that were discussed in the chapter on GBP, it will continue to spread throughout populations. In attempting to gain a solid understanding of challenges of the virus, the next section discusses the pathogenesis of HIV-1 and the mechanisms used by the virus to enter and exploit the host's immune system. The diversity, rapid rate of reproduction, ability to form new recombinant strains, and defences against the body's immune system make it a formidable adversary.

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<sup>7</sup> Hereafter pandemic will refer to the Global HIV/AIDS burden and epidemic will refer to country or population specific HIV/AIDS situations.

## **Overview of HIV/AIDS pathogenesis and epidemiology**

In order to understand the practicalities of dealing with the HIV virus in a global context it is essential to gain an understanding of the pathogenesis and epidemiology of the virus. Moreover, understanding the different strains of HIV and the transmission mechanisms of HIV/AIDS allows for a comprehension of its impact on individuals and populations. Furthermore, they are able to trace the distinct epidemiology of various strains back to their source to understand the main drivers of the spread in a specific community. Due to the constrictions of this thesis, this section provides only elementary information on the molecular and immunological function of the virus. However, it does allow for an ample understanding of the complex nature of the virus's immunological functions once it has breached the defence systems of the host.

In addition to understanding the molecular structures of the virus, understanding how HIV works allows researchers to ascertain what types of behaviours might be considered 'high risk' in HIV epidemics. A comprehensive understanding of the virus's entry points into the body enable researchers to inform programming efforts geared towards creating physical barriers and addressing cultural and behavioural change. They also allow researchers to work towards creating the drugs necessary to assist the immune system to form chemical barriers. Furthermore, having an understanding of the ways that the HIV virus progresses to AIDS allows researchers to work towards developing a vaccine. Ultimately, as HIV/AIDS moves from a guaranteed death sentence to a chronic health issue it becomes crucial for a vaccine to be developed as national economies are unlikely to be able to sustain current treatment and prevention practices.

### **The pathogenesis of HIV/AIDS**

HIV enters the human body through an exchange in bodily fluid (semen, vaginal fluids, blood, and breast milk). In this way transmission of HIV can occur during birth or when breastfeeding; through sexual contact; and due to needle sharing practices of PWID. However, most HIV epidemics are sexually driven and more than 90 percent of infections are through heterosexual intercourse (Andreoletti et al., 2007). As such, due to the constraints of this thesis, this section will concentrate on sexual transmission of HIV. The transmission of HIV through sexual activity occurs when the HIV virus contained in genital secretions (semen and vaginal fluid) breaches the epithelial barrier, due to tearing, inflammation and micro-

abrasions of the rectal mucosa or cervico-vaginal or penile epithelium in the vagina or anal cavity (Geise & Duerr, 2009, p. 55).

Interestingly, transmission of HIV during sexual contact is not overly efficient (Anderson, 2009). Research suggests that only one in every one hundred exposures will lead to infection (Geise and Duerr, 2009). Reasons for this include the generally inhospitable environment for pathogens due to immune system responses within the mucosal lining of the genital area, and the low or acidic pH-levels of the vagina in its normal state (Anderson, 2009). HIV-1 is inactivated at low pH levels (Anderson, 2009). Unfortunately, bacterial infections can elevate pH levels and semen (which is alkaline) creates an almost instant pH neutral environment in the vagina during unprotected sexual intercourse; which can last for up to an hour after sexual contact allowing a brief window of opportunity for HIV-1 virions to infect target-cells (Anderson, 2009). Additionally, the transmission rates increase during pregnancy due to increased hormonal levels.

Of course, this defence does not apply to anal sex or during sexual encounters between MSM. HIV is more easily transmitted to a recipient partner due to the higher likelihood of the recipient epithelium tearing during sexual activity. This is particularly the case during unprotected anal sex (McGowan, 2009). However, the risk factor is increased bidirectionally in the presence of STIs, which not only add to the likelihood of viral shedding but also cause a higher number of target cells to be at the site (Anderson, 2009; McGowan, 2009), and both the inserting and recipient partner are at higher risk of contracting HIV regardless of which partner is HIV+ (Anderson, 2009).

Moreover, the epithelial layers in the genitalia vary in thickness depending on their location. The skin lining the outer genital areas and the inner genital surfaces in both men and women are multilayered and may be up to 45 epithelial cells thick making it a forbidding barrier for HIV pathogens (Anderson, 2009). However, the epithelium changes and becomes single layered and columnar at the cervical opening (for women) and penile urethra (for men), which means that HIV virions are more easily able to penetrate (Anderson, 2009; McGowan, 2009). As mentioned, tearing or inflammation makes the multilayered squamous epithelium of the outer genital tract breachable.

Furthermore, infection rates are likely to increase when sexual activity occurs within two months of seroconversion and within the acute infection stage. This is due to higher viral loads and the increased presence of HIV-1 R5 phenotype (or R5-tropic HIV strain)<sup>8</sup> (Gonzalez et al., 2010). R5-tropic HIV-1 strains are particularly efficient at causing infection in mucosal environments, are not neutralised by HIV-specific antibodies (Anderson, 2009), and R5 phenotypic strains may increase HIV replication (Locher et al., 2005). Moreover, there may be a mixed population of HIV virions with diverse molecular genotypes and phenotypes occurring simultaneously within infected persons (Locher et al., 2005).

Additionally, research suggests that both the female genital tract (Andreoletti et al., 2007) and male genital tract act as both reservoirs and compartments for the production of HIV (Anderson, 2009; Gay, Kashuba & Cohen, 2009). A reservoir can be defined as tissue that is able to both produce and release the virus and has a continuous inflow of virus (Anderson, 2009, p. 33). Since they act as compartments, this means the genital tracts are environments where HIV viral reproduction can occur independently of other tissues (Anderson, 2009). Indeed, there may be a diversity of HIV-1 species (quasi-species), phenotypes and molecular genotypes, within and between the blood and semen or vaginal mucosae (Locher et al., 2005; Simon, Ho & Karim, 2006). There are also latent cellular reservoirs of macrophages and CD4 T memory cells (anatomical sanctuary sites) where the virus can ingress a cell and become integrated into the DNA, becoming almost impossible to clear (Autran, Hamimi & Katlama, 2014; Geise & Duerr, 2009; Simon, et al., 2006). In this instance, the virions are resting and non-active in contributing to the infectiousness of the host but are “replication-competent” (Autran, et al., 2014, p. 172). These cell populations, particularly T cell lymphocytes, are long-lived and resistant to eradication by current ART (Simon, et al., 2006).

In the initial infection stage it is thought that Langerhan or dendritic cells catch HIV-1 virions in the genital mucosae and transport them to the draining lymph nodes where the infection cycle starts (Anderson, 2009; Geise & Duerr, 2009; McGowan, 2009). In unprotected sex, the high levels of HIV target-cells in the genital area provide HIV virions with a greater chance of breaching a target cell and being carried further into the body. Both cell-associated HIV (cells that have been infected with HIV virions) and cell-free HIV virions can be found in the genital

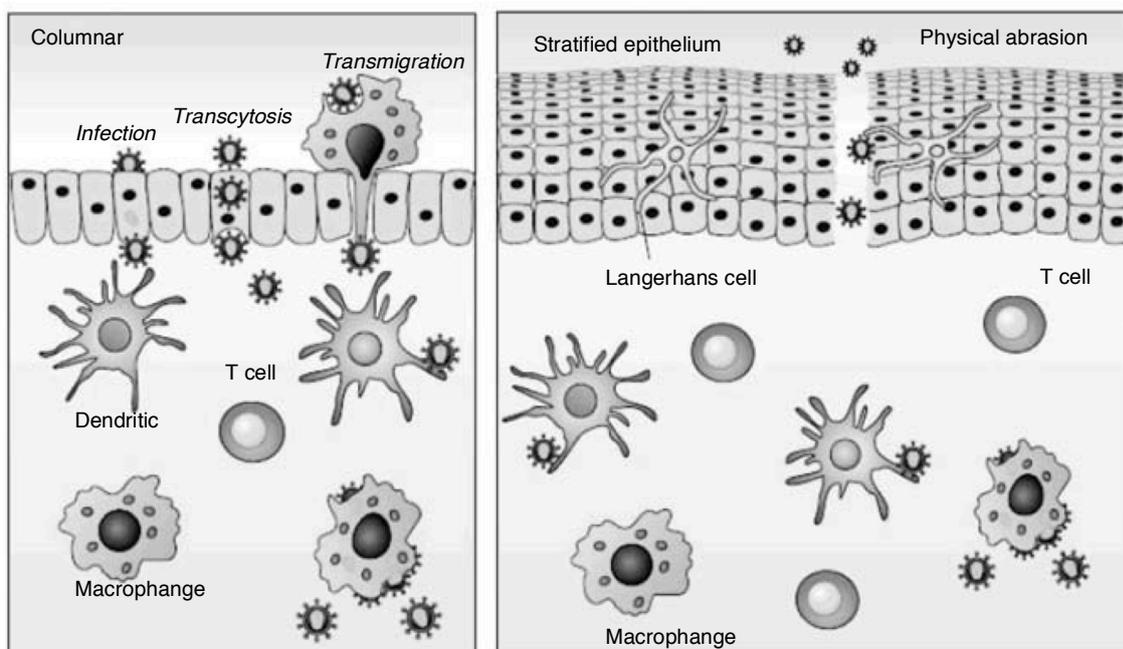
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<sup>8</sup> Depending on which chemokine receptor is used by the HIV-1 virus envelope, the two major receptors are CCR5 (R5) and CXCR4 (X4), a HIV-1 strain will be classified as either R5 or X4-tropic or in cases of dual-tropic strains (which can enter the cell through either receptor) R5X4-tropic (Gonzales et al., 2007).

secretions of HIV+ men and women and both are infectious (Anderson, 2009). HIV-infected cells such as macrophages can traverse through mucous and cell-free virions can diffuse through mucous in the absence of HIV-specific antibodies (Anderson, 2009).

Once infected, there are likely to be a number of different pathways for the mucosal transmission of HIV particularly in the presence of epithelial disruption and inflammation (McGowan, 2009). Once the virus has managed to penetrate the epithelium (or been transmitted through blood or breast milk) it targets host cells containing HIV receptors (see page 64, Figure 6). These types of cells include, macrophages, Langerhans and dendritic cells found in the mucous and subepithelial layer (Anderson, 2009; McGowan, 2009).

**Figure 6: Transmission of HIV virus via the epithelium**



Sourced from: McGowan (2009, p. 87).

The HIV-1 virions gain entry to the host cell through interacting with two major receptors (R5 and X4) and fusion of the viral envelope with the cell membrane (Gonzalez et al., 2010). These host cells then carry, or shuttle, HIV to target cells (Geise & Duerr, 2009). In particular it attacks the CD4+ lymphocytes (also known as T cells and T helper cells) that are a main component of the body's immune system. It does this by replicating in and then destroying the CD4+ T cells (Kanki, 2013). These cells then rapidly transport the virus into even deeper

tissues. Indeed, HIV virions are particularly successful at taking advantage of cellular pathways while neutralising and avoiding components of the immune system (Simon, et al., 2006).

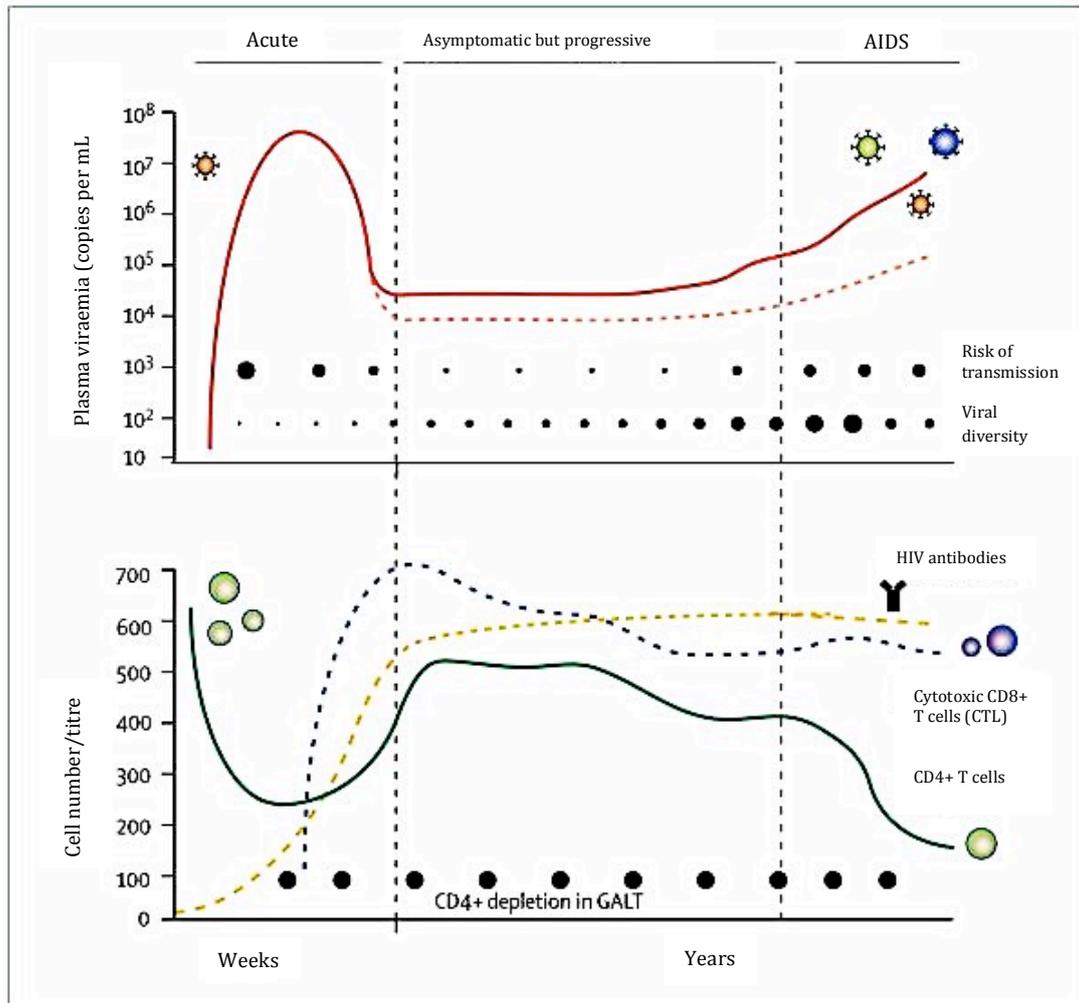
While ethical considerations prevent research on human subjects, according to modelling done on animals, once HIV virions have been taken up by target-cells, infection can occur within an hour and dissemination of the virus (systemic infection) within twenty-four hours (McGowan, 2009, p. 86). HIV-1 can be discovered in regional lymph nodes within two days of infection and in the blood within seven days (Geise & Duerr, 2009). The body has not yet been able to generate HIV-specific immune responses and HIV-specific antibodies, thus the virus replicates at a high rate unconstrained (Gay, et al., 2009). In infected individuals HIV progeny are generated at a rate of one billion viral particles a day (Santos & Soares, 2010). Therefore, even though an individual is unlikely to know they are infected the rapid rate of infection and high numbers of virions in the host means that high risk sexual behaviours undertaken during this time are more likely to result in infection.

There is a particularly high viral build up in areas of the gastrointestinal and genital areas. One of the reasons for this is that gut-associated lymphoid tissues (GALT) have the highest number of CD4+ T cells, particularly memory T cells. This means that this area is a significant reservoir, contains tissue with HIV flowing in and also being produced and released (Anderson, 2009), and is thus a highly active region for the HIV virus (Moro, personal communication, 18 December 2012). The result of the destruction of CD4+ T cells in the body is the crippling, or severe compromising, of the immune system making it susceptible to opportunistic infections; which the body no longer has the ability to fight (Geise & Duerr, 2009; Moro, personal communication, 18 December 2012). The progression of the virus occurs over three different phases with each phase being either symptomatic or asymptomatic (see page 66, Figure 7).

It is important to understand these different phases when grappling with the unique challenges of HIV/AIDS epidemics. One reason for this is that people in the first two stages show no on-going external indications of infection and as such may misdiagnose themselves and unknowingly spread the disease to others. In fact, this is a problem in HIV/AIDS epidemics with an estimated 50 percent of PLWHA being unaware of their HIV seroconversion status. As will be discussed in the next chapter, an essential component of

HIV prevention is educating individuals concerning exposure risks and risk behaviours in order to incline those having engaged in high-risk behaviours to seek out testing and counselling services.

**Figure 7: The course of HIV-1 infection defined by the level of viral replication**



Sourced from: (Simon, Ho & Karim, 2006)

The initial or acute stage of the infection presents as a flu-like illness that can often be dismissed as a severe cold or a simple bout of the flu. During this time the virus is abundant with very high rates of viral loads in both the blood and genital fluids (Anderson, 2009) and has free reign until the recruitment of CD8+ T cells; which create antibodies to fight the virus (seroconversion) (Moro, personal communication, 18 December 2012). At this stage HIV+ individuals have a greater potential to transmit HIV to sexual partners.

The next phase is a clinical latency period where the virus continues to destroy CD4+ T-cells. However, many cases appear asymptomatic, although HIV-1 viral replication continues throughout the entire course of the disease (Simon, et al., 2006), and little trace of HIV RNA can be detected in the blood or genital mucosae and seminal fluid (Anderson, 2009). This stage can last eight to ten years. If a HIV+ individual is unaware of their HIV status during this period they can continue to expose their sexual partners to the risk of acquiring the virus. It is during this period that the virus also develops the sites of hidden infection or persistent virus reservoirs. These reservoirs are particularly problematic as they prevent ART from completely eradicating the virus. As yet there have been no successful strategies developed for flushing out these reservoirs but research continues with the ultimate goal of a cure or long-term control of HIV without the need for ART (Autran, et al., 2014).

As a result of the new treatment as prevention (TasP) guidelines, ART regimes are initiated when a HIV+ individual acquires a CD4 count  $<500$  cells/mm<sup>3</sup> (AIDSinfo, 2013). Some of the reasons for early initiation of ART include the preservation of immune cells; limiting the establishment of cell reservoirs; prevent ongoing immune activations within the body; and to control the inflammation caused by high numbers of HIV viremia occurring in ongoing systematic infections (Autran, et al., 2014). However, even cases where an individual has received optimal treatment, chronic immune activity can persist: resulting in a continuous low, undetectable level of virus production (Autran, et al., 2014, p. 177).

As will be discussed further in the chapter, early implementation of ART may prevent individuals from progressing to the last phase of the disease: the development of the acquired immunodeficiency syndrome (AIDS). At this stage of the disease the body's immune system is severely compromised through a gradual destruction of naïve and memory CD4+ T-lymphocyte cells and HIV viral levels are again elevated in the blood and semen and the person is no longer able to fight off infection (Simon, et al., 2006). If left untreated, in most cases, this will eventually result in death (Kanki, 2013; Moro, personal communication, 18 December 2012).

As has been demonstrated, HIV-1 is a particularly effective virus. It has several defence mechanisms against the formidable arsenal of immune responses launched by the body and an uncanny ability to use the host cells to further its replication. Simon et al. (2006) state:

Mammalian cells are not welcoming micro-environments, but rather deploy a defensive web to curb endogenous and exogenous viruses. HIV-1's ability to circumvent these defences is as impressive as its efficiency to exploit the cellular machinery. (p. 493)

In addition, high rates of viral replication; genetic variability through the mutation and recombination rates of the reverse transcriptase enzyme (Hemelaar, et al., 2011); ability to form recombinants and quasi-species; and ability to create compartments and reservoirs allowing HIV to remain undetectable within some CD4+ memory cells (Autran, et al., 2014) presents a daunting challenge for researchers attempting to create vaccines and ART regimes (Geise & Duerr, 2009; Simon, et al., 2006).

This overview of HIV pathogenesis and transmission clearly shows the complexity involved in dealing with ongoing treatment and transmission of the disease. HIV is adept at hiding in cells of the body resulting in asymptomatic presentation of the infection. People often do not realise that they are even infected. Its ability to use the body to create reservoirs and compartments, high rates of viral production and the ability to generate recombinant forms add to the challenges of vaccine production and ART. A combination of initiatives is needed to make a real impact. Furthermore, as previously mentioned, the presence of STIs can further enhance HIV infectiousness. This chapter now provides a brief overview of the role of STIs in current HIV/AIDS epidemics.

### **The role of STIs in exacerbating the spread of HIV**

An added risk for HIV transmission within these populations is the presence of STIs. While a comprehensive rendering of the many ways that STIs contribute to HIV infectiousness is beyond the scope of this thesis, a general understanding how STIs promote HIV transmission is helpful. There is much evidence to suggest that individuals who have a pre-existing STI are more prone to becoming infected with HIV in what has been termed an 'epidemiological synergy' (Fleming & Wasserheit, 1999). In addition to their facilitation of HIV seroconversion the majority of STIs manifest no symptoms (Fleming & Wasserheit, 1999). STIs are rampant globally, particularly in developing nations. Therefore combination of high-risk behaviours, STIs and ignorance of HIV status creates an epidemic confluence that exacerbates HIV transmission in both key and general populations.

Ulcerative and non-ulcerative STIs increase the risk of HIV infection through a number of biological mechanisms but primarily through facilitation of HIV shedding in the genital tract, which disrupts the normal epithelial barrier and promotes HIV infectiousness; and through the activation and deployment of HIV susceptible inflammatory cells creating an increased vulnerability to HIV infection (Fleming & Wasserheit, 1999; Risbud, 2005). Additionally, immunosuppression due to HIV can add to the complications, alter the course of STIs and impact on their response to treatment (Rein, 2000).

Genital ulcers such as acute herpes simplex virus (HSV-2) are thought to increase the risk of transmitting HIV-1 bidirectionally (from male to female or female to male) as infected persons frequently bleed during intercourse and HIV has been detected in these ulcer exudates (Fleming & Wasserheit, 1999, p. 10; Rein, 2000; Simon et al., 2006). Non-ulcerative STIs, such as gonorrhoea and chlamydia, are thought to primarily increase the risk for the receptive partner and contribute to HIV transmission through facilitation of HIV shedding and increased viral loads in the HIV+ individual's seminal fluid and genital mucosa. Further, gonorrhoea has been associated with a five-fold increase in the possibility of HIV seroconversion (Fleming & Wasserheit, 1999).

Moreover, the presence of STIs in the insertive or recipient sexual partner increases the risk of HIV transmission bidirectionally (in the case of ulcerative STIs) and to the recipient partner (in non-ulcerative STIs) through the facilitation of HIV shedding and increased viral loads in genital fluids. In addition to adding to the risk of HIV, receptive anal intercourse adds to the risk of contracting human papilloma virus (HPV) infection of the anus (Rein, 2000). Significantly, percentage rates of anal HPV infection amongst homosexual men are extremely high with 93 percent of HIV+ homosexual men carrying multiple types of HPV and 61 percent of HIV-negative men infected with a single type (Rein, 2000, p. 87). When considering the 'epidemiological synergy' between STIs and HIV this is of some concern.

Regardless, of the defence systems deployed by the body and the many technological and biological advancements being made in attempts to halt HIV/AIDS epidemics the disease continues to spread. This is particularly the case in the most vulnerable and difficult to reach populations. Behavioural interventions have also yielded results but cultural and situational environments mean that these may also be limited in success. Essentially, it is necessary for policy makers and those implementing HIV initiatives to understand the precise nature of the

epidemic they are dealing with. The next section of this chapter gives an overview of the STI challenges being faced by China.

## **STIs in China**

China currently has a high burden of STI infections, particularly in FSW, MSM and PWID cohorts. While STIs were once virtually eliminated in China they have been on the rise since the opening up and reform period of China beginning in 1978. A relaxation of sexual cultural prohibitions and norms has meant that many more young people are engaging in sex earlier and with multiple partners. When added to the high volume of drug use (both injection and non-injection), alcohol consumption and lack of education about preventing STIs the probability for a rampant increase in the incidence of STIs is inevitable. While HIV is considered to be an STI it is not considered in this section concerning China's STI burden. Rather this section provides information as an addendum to the previous section in order to understand China's epidemiological synergy for HIV and STI infections. It is difficult obtaining information on the current figures for STIs in China. Available figures, which may be underestimated, show that since the 1980s there has been a dramatic thirty-six-fold increase in the number of infections with figures suggesting 23 534 in 1986 to 859 040 in 2000 (Zheng, Guo, Padmadas, Wang & Wu, 2014). Apart from HIV, only syphilis and gonorrhoea have mandatory reporting within China therefore little is known about the extent of other infections such as HSV-2 (genital herpes), chlamydia infection, genital warts or urethral infection (Zheng et al., 2014).

The incidences of the various types of infection vary across different populations. STIs are found throughout the general population and in the key populations mentioned in this thesis. FSWs and MSM communities are most likely to have higher infection rates of specific and highly contagious STIs such as syphilis, chlamydia, HSV-2 and gonorrhoea. Data suggest that there is a much higher incident rate of STIs in CSWs, clients of CSWs and individuals engaging in high-risk sex (Zheng et al., 2014). The ulceration due to syphilis and the HSV-2 are implicated in exacerbating HIV transmissibility due to their disruption of the epithelium. Other STIs add to infectiousness due to inflammation, chemical changes and the attraction of HIV target cells to the genital area.

In 1991, gonorrhoea was the most dominant STI in China but this has changed over the past decades and data now suggest that syphilis is the main STI (Zheng et al., 2014). Prior to 1949, syphilis was dominant but was virtually eliminated due to Chairman Mao's national STI control campaign of the 1950s (Zhang et al., 2014). The STI control campaign entailed shutting down brothels, treatment and screening programs, and the use of the mass media to provide education on prevention (Zhang et al., 2014, p. 1).

However since that time and the move from a socialist to a more market orientated economy there has been a substantial increase in commercial sex, drug trafficking and drug addiction. This is particularly problematic with the high numbers of mobile populations in China. As has already been discussed this mobility coupled with high-risk behaviours generates a high probability of these populations exacerbating the spread of STIs within China; in particular their role as clients of FSWs. In 2012, 68 percent of STIs in China were thought to be from heterosexual transmission with transmission through FSWs of particular burden (Zhang et al., 2014).

While the PRC has implemented a number of health initiatives addressing harm reduction there is still a significant dearth in needed interventions. Condom distribution, education and prevention efforts are in place but as can be seen by the rapid and exponential increase in STIs since 1986 there is much room for improvement. The challenges for health care and lack of human security in vulnerable populations increase susceptibility to high-risk behaviours and therefore transmission opportunities. It is essential to provide more grass-roots level interventions that address the ongoing human security issues in order to be effective in reaching these populations.

Having discussed the pathogenesis of HIV and the function played by STIs both in global epidemics and the specific context of China the next section examines the epidemiology of HIV/AIDS epidemics. In order to understand the implications of current prevention and education efforts it is useful to comprehend the manner in which the disease has spread and the lessons learned from previous interventions. Further, it provides a brief framework for understanding the epidemiological considerations for disease outbreaks particularly within a national and global context.

## **Global epidemiology of HIV/AIDS**

The previous section of this chapter considered the pathogenesis of HIV and the role of STIs in facilitation transmission. It briefly introduced the complexities of the virus, its transmission and the different strains and quasi-species including circulating and unique recombinant forms of the virus. While there are two types of HIV (HIV-1 and HIV-2) this thesis is concerned with the main type driving the global pandemic. As such, this section concentrates upon understanding and examining the various strains of HIV-1 as the main type responsible for global epidemics. This happens in the realm of molecular epidemiology. As such, it is helpful to be given a definition of epidemiology and why it is essential to halt and ultimately reverse HIV/AIDS epidemics. Significantly, as previously explained and reiterated in this section, identification of the different strains of the HIV virus enables researchers to follow its trajectory (epidemiology) throughout populations.

In order to understand the scope of the global pandemic and the ways that it progresses through populations it is beneficial to understand the ways different strains travel between individuals and populations. These strains are identified using a toolkit of genetic sequencing mechanisms. However, it is beyond the scope of this thesis to delve into the specific molecular mechanisms such as phylogenetic sequence analysis, Gag-pol sequencing, bootstrap analysis and other molecular and genomic identification systems, which are then compared against a library of full-length genomic sequences in public sequence databases such as that in Los Alamos. Suffice to say that these mechanisms for identifying the different HIV-1 subtypes or strains and the various circulating and unique recombinant forms are essential both on an individual and societal level. On an individual level, optimal ART is conditional on the correct identification of a particular strain of the virus. On a societal level, correct identification is important because it is essential to understanding the specific drivers contributing to the transmission of HIV-1 throughout key populations and their convergence with the general population.

### **Definition and purpose of epidemiology**

Current global HIV/AIDS epidemics have been ongoing for more than thirty years and yet the disease continues to elude efforts to bring about its drug-independent control or demise. The complex array of measures that can presently be combined and adapted to meet the needs of specific HIV epidemics are a demonstration of the cooperation and determination of the

global community to arrest the further spread of the disease. Much of this nascent success in the global HIV/AIDS pandemic can be traced to epidemiological efforts in the development and assessment of ART and the development and assessment of public health initiatives (Amon, 2014). Additionally, epidemiology has contributed to understanding molecular underpinnings of infections and their history, prevalence and trends.

Epidemiology is the practice of tracing the trajectory of diseases through populations. It is interested in backtracking through the molecular data to find the source of an outbreak and to look at present situations in order to best focus interventions that will provide optimal impact in epidemics. Primarily, it does this by examining specific strains of disease and mapping their movement through specific populations. It is more concerned with the biological aspects of disease and employs a portfolio of molecular tools to understand the biological aspects of specific virus and bacteria. Epidemiologists then disseminate this information to assist in formulating methods for stopping the disease spread, such as vaccines and drug therapy regimes. Less stridently, it also scrutinises some of the social drivers for epidemics.

Formerly, epidemiology has overly emphasised the biological aspects of disease rather than the context within which they occur. Yet, there are other aspects of epidemiology that should be considered such as political and social epidemiology. These have come to the forefront in recent years as the thirty plus year lifespan of HIV/AIDS has shown that regardless of how effective molecular mechanisms are for tracing disease and informing public health initiatives they are insufficient on their own. It is essential to trace the patterns of behaviour and political will as they are applied to epidemics. Indeed, many epidemiologists have highlighted the need to go beyond the molecular determinants to adopt a more ethnographic people centred approach that considers the consequences of certain behaviours upon epidemics (Amon, 2014).

As such, social epidemiology has contributed significantly to efforts to deal with the ongoing HIV/AIDS pandemic overall and to understandings of situation specific epidemics. Social epidemiology examines the social and structural determinants for the spread of epidemics (Amon, 2014). It is therefore concerned with the impact of mobile populations, poverty, gender inequity, conflict, stigma and marginalisation. Understanding the macro-social and economic determinants of HIV/AIDS prevalence is essential. Human beings live in communities and therefore the way they are perceived and interacted with have a direct

impact of disease outcomes. Regardless of how effective the molecular interventions are they will not be utilised if an individual cannot afford to see the doctor administering it or if they are afraid of being stigmatised by others.

Additionally, political epidemiology is required for epidemiological approaches to be more consequential. It recognises that political decisions have consequences and long lasting impacts on disease outcomes. Effective and sustainable interventions in HIV/AIDS epidemics must be backed by strong political will. Governmental policies, law enforcement practices (including police-harassment), discriminatory laws, and a weak public health sector have a direct impact on health-related behaviours and the efficacy and outcomes of interventions (Amon, 2014).

As well as mitigating poor HIV/AIDS outcomes through highlighting deleterious discriminatory practices and out-dated law enforcement paradigms, political epidemiology provides a positive contribution. Often, there are limited resources available for allocation, particularly in middle and low-income countries, and political epidemiology is able to ascertain which HIV strategies are most cost effective, best suited to the situation and accessible by the populations being targeted (Amon, 2014). Without this analysis HIV/AIDS programs are likely to be unsustainable, and unable to address the human rights (as a component of human security) needs of populations, regardless of how effective they may be in other environments (Amon, 2014).

Political leadership and top down policy initiatives can have either positive or negative contributions to make to efforts to halt HIV/AIDS epidemics. One such example (which will be considered in a subsequent chapter) is the initial failure of the PRC to adequately respond to the spread of HIV within its borders. Additionally, the criminalisation of sex work, same gender consensual sex, and drug usage has had direct influences on the spread of HIV/AIDS globally. Furthermore, there is a dearth of engagement in this area of epidemiology regardless of the possible benefits it would provide in understanding the human rights/health outcome correlation (Amon, 2014). In HIV/AIDS epidemics the overwhelming trend is still to concentrate on molecular interventions.

Therefore, in a specific HIV/AIDS context the practice of epidemiology studies the propagation, transmission patterns and distribution of HIV throughout different geographical

areas and key populations. Epidemiology has two main functions, “...examining the distribution and determinants of health, and acting on this knowledge to promote health” (Amon, 2014, p. 2). In general epidemiology is concerned with the molecular epidemiologic features of a virus in the context of the risk practices and behavioural trends of populations (Thomson & Nájera, 2005). Quintessentially, it attempts to answer the ‘when’, ‘how’, ‘why’ and ‘who’ questions. In a HIV/AIDS context doing so provides essential information for policy makers and researchers developing prevention interventions, ART and possible vaccines (Amon, 2014). In elucidating the biological mechanisms for transmission it provides illumination on the behaviours involved in augmenting transmission of the virus.

In tracing the HIV/AIDS pandemic back to its origins it was discovered that in the early 1900s the original virus jumped species through a number of zoonotic transmissions of Simian Immunodeficiency Virus (SIV) (Hemelaar, et al., 2011). As a consequence the virus adapted and developed to contend with the biological milieu of the new host. In recognising the blood-borne nature of the virus suppositions were made that the slaughtering and eating of non-human primates (namely chimpanzees and sooty mangabeys) led to the virus being introduced into humans through entry in open wounds on the skin (Mayer & Pizer, 2009). HIV-1 M, from Simian Immunodeficiency Virus Chimpanzee (SIVcpz), is the strain that began the Global pandemic but it began to diversify into genetic subtypes (A-D, F-H and J-K) soon after transmission (Hemelaar, et al., 2011; Santos & Soares, 2010).

The global HIV/AIDS situation broadly encompasses two transmission configurations, that of generalised epidemics due to heterosexual transmission within the general population; and that within key populations such as CSWs, MSM, PWID (Kilmarx, 2009). These transmission patterns are characterised by specific strains of HIV including the original clades, circulating recombinant forms (CRFs) and unique recombinant forms (URFs). Epidemiology reveals that while these subtypes and CRFs can be divergent globally there are often specific subtypes and CRFs within geographic areas and specific key populations. The next section goes into a more detailed rendering of the global dispersal of the different strains of HIV.

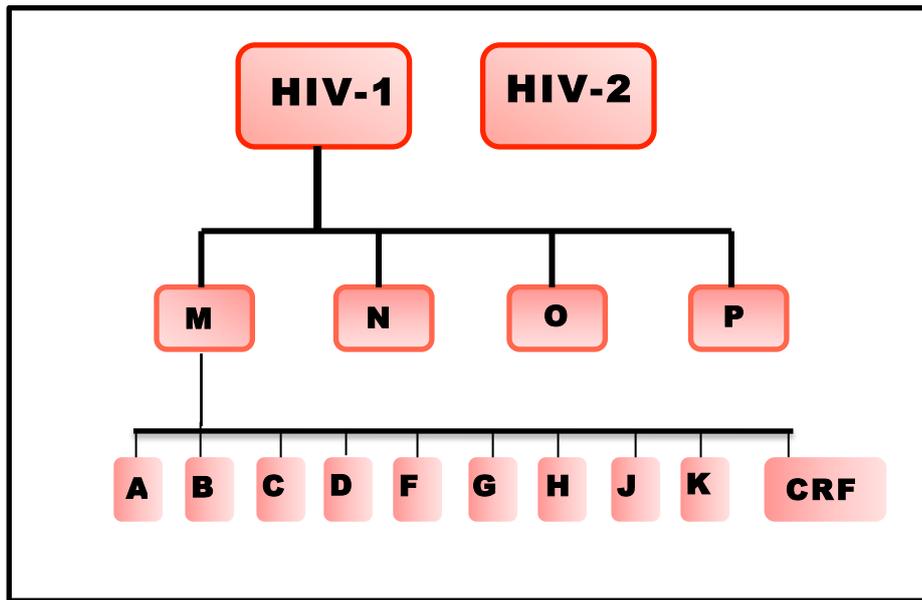
## **HIV subtype diversity**

HIV is an incurable retrovirus (belonging to the *Retroviridae* family, and to the Lentivirus genus) (Santos & Soares, 2010) that can be distinguished genetically and antigenically and exists as two distinct types HIV and HIV-2 (Lashley, 2006; Moro, personal communication, 18 December 2012). HIV and HIV-2 both originated in simian species as SIV, notably chimpanzees (SIVcpz) and sooty mangabeys (SIVsm) (Santos & Soares, 2010). HIV-2 is found in West Africa but is rarely found elsewhere, and this is most likely due to its lower infectivity when compared to HIV-1. As previously noted, the genetic diversity, virulence and high transmission rates of HIV-1 have facilitated its dispersion and evolution into a global pandemic.

In addition to the main types there are four sub-groups within the HIV-1 strain. These are M (main or major) which is responsible for more than 95 percent of the HIV pandemic; N (new) which is epidemiologically rare was traced to a recombinant event between the ancestor of group M and SIVcpz (Santos & Soares, 2010); O (outlier) which is the most divergent group; and P (discovered in 2009 with only one identified case to date). These are all variations arising from distinct introduction of SIVcpz in human populations (Santos & Soares, 2010).

The M group is the most prevalent among the four groups with nine subtypes all originating in Central Africa (Kandathil, et al., 2005) and fifty-one CRFs (Hankins, 2013). Within the main sub-group (the M sub type) there are at least 10 viral isolates, referred to as subtypes or clades, the first 9 are classified as A-D, F-H and J-K (see page 77, Figure 8) and the remaining viral isolate grouped as CRFs. Classification of these subtypes is based on percentage differences in the viral envelope nucleotide sequences (Kandathil, et al., 2005). There can also be mosaics or CRFs and URFs between different subtypes due to simultaneous or subsequent infection by two or more different subtypes infecting a single cell causing strand transfer during reverse transcription (Hankins, 2013; Hunt, 2012; Kanki, 2013; Santos & Soares, 2010).

**Figure 8: Levels of HIV Genotypic diversity**



Source: Compiled by author

A recombinant is deemed to be a CRF when it is identified through full-genomic sequencing as infecting more than three epidemiologically unlinked individuals (Kandathil, et al., 2005; Thomson & Nájera, 2005). URFs are found in epidemiologically linked persons and are thought to be due to a secondary recombination of CRFs (Kandathil, et al., 2005). Additionally, ‘superinfection’ is caused when individuals have a primary HIV infection and are later infected with a different strain from a subsequent transmission event (Kilmarx, 2009). Apart from the possibility of new recombinants, individuals with dual infection challenge the notion that initial HIV infection confers immunity against future infections; they may also progress to AIDS more quickly (Simon, et al., 2006).

Interestingly, the CRFs are numbered in order of discovery and to reflect their originating strains. For example CRF01\_AE was the first recombinant form discovered and was a combination of the A and E subtypes. HIV-1 M group subtypes occur globally with different regional variants and recombinant forms. Globally, subtype C is the strain most commonly predominating in sub-Saharan Africa, East African countries, Asia and Brazil (Santos & Soares, 2010), India and Ethiopia (Kandathil, et al., 2005). Subtype B is the most widely disseminated variant and occurs in the US, countries of Southeast Asia, Australia and Japan. It is also referred to as Thai B and along with CRF01\_AE is responsible for the majority of epidemics in South East Asia. Subtypes D, F, G, H, J and K have less incidences than the two main sub-types.

Recombinant forms such as CRF01\_AE in South-East Asia can also have huge impacts in HIV/AIDS epidemics (Santos & Soares, 2010). Although the majority of infections in East Africa are caused by subtype A, there are many AC and AD CRFs due to the circulation of subtypes A, D and C (Kandathil, et al., 2005). In fact the greatest diversity is found in Central Africa with all subtypes and many of the CRFs and URFs found in the population (Hemelaar, et al., 2011). Indeed, the global diversity and spread of HIV is one of the main challenges faced in the production of ART and vaccines (Hemelaar, et al., 2011). The distribution of subtypes and recombinants is complex and their high frequency appears to be a major mechanism for the global diversity (Thomson & Nájera, 2005). Another factor leading to the diffusion of the virus is its ability to counteract the body's immune system and efficiently replicate. In keeping with the focus of this thesis, this chapter now considers the epidemiology of the various strains of HIV in China.

### **Current forms of HIV in China**

As mentioned, sub-types and recombinant forms of HIV can be traced to areas of origin and allow experts to understand the epidemiology of HIV as it spreads between populations. In understanding what subtypes are active in different populations it is possible to ascertain changes such as when new strains enter into different groups. Generally, the higher the percentages of particular strains in a population, the longer that a specific genotype has been active. Additionally, as will be discussed in the next chapter, in keeping with 'know your epidemic, know your response' it is essential to understand which strains are being treated in order to effectively administer TasP initiatives.

China has several different epidemics with different sub-types dominating in different provinces and key populations. HIV-1 subtype B (found in the US and Europe) and B' (also referred to as Thai-B) were the first outbreaks to be reported in Yunnan in China but in the years spanning 1995-1997 the virus spread rapidly and accounted for 50 percent of infections in PWID outside of the province (Beyrer et al., 2000; Lu et al., 2008; Yang et al., 2002). Currently, there are at least seven HIV-1 subtypes and three major circulating recombinant forms that are active in China. The main subtypes are A, B/B', C, D, E, F and G and the main recombinants are CRF01\_AE, CRF07\_BC, and CRF08\_BC (Qian et al., 2006).

In the years since the epidemic began researchers have been able to identify how HIV spread throughout the different provinces of China. An example of this is early HIV virus sequencing that took place in Xinjiang, Sichuan and Guangxi showing many identical gene sequences, but at lower genetic divergence than those identified in Yunnan, suggesting that the virus originated in Yunnan and subsequently spread throughout China (Xiao et al., 2007). Therefore Yunnan, as the origin of China's patient zero, is an essential site (and valuable as this thesis' case study location) for understanding the dispersal of HIV/AIDS throughout China. Within China CRF01\_AE has been an important driver of the epidemic and is still the main type transmitted in PWID populations.

Within China HIV subtypes and recombinant forms are found in each region and epidemic cohort. One research study was undertaken to map the HIV-1 genotypes in risk groups and regions of China (He, et al., 2012). Their data indicates that there are different strains of HIV found in PWID and MSM populations and that where genotypes are the same the percentage rates of infection differ between PWID and MSM populations. They found that within PWID populations the highest percentage of genotype is CRF07\_BC (48.5 percent). Among MSM populations the highest percentage of genotype is CRF01\_AE (55.8 percent), which is a change from the US/European B subtype that predominated in the initial stages.

Further, their research in heterosexual populations, including FSWs and their clients, indicated a high genotypic diversity (He, et al., 2012). Further, in these populations the main subtype is CRF01\_AE (39.8 percent) but all twelve HIV-1 genotypic categories are found. The predominant subtype in mother to child transmissions is B' (34.1 percent), but as with the heterosexual populations, there is high genotypic diversity. However, they found that this was not the case in FPD and blood transfusion recipients where subtype B' accounted for 92.5 percent of all infections (He, et al., 2012).

Significantly, the genotypic diversity found in the heterosexual (general) population seems to indicate that infection has spread into the general population through sexual contact with various vectors. Moreover, the research has concluded that in the transmission of HIV the impact of geographical communities is weaker than that of behavioural communities (He, et al., 2012). An obvious reason for this is that people generally interact within specific cohorts and form communities of like-minded people. HIV spreads when members of these

communities interact with non-members, as in the case of clients and non-commercial partners of sex workers, and wives or girlfriends of MSM and PWID populations.

As highlighted by examining the current strains of HIV, in China and globally, the diversity and infectiousness of the HIV virus has considerably added to the spread of the global pandemic since its identification in 1985. Since inception through the cross-species infection in 1908 the virus has continued to diversify and adapt. This chapter now provides a brief overview of the history of the spread of the virus globally in order to gain insight into the epidemiology of the disease on a large scale. In broadly painting the picture of the trajectory of the disease it will allow for a solid grounding in understanding the implementation of GBP.

### **Overview of HIV/AIDS pandemic**

Having gained an understanding of the geographical dispersion of the different HIV subtypes and CRFs, this section provides an overview of the progression of HIV/AIDS from the beginning of the pandemic until the present. This section therefore places the information concerning the molecular characteristics and routes of transmission of the disease into the pandemic context. Thus highlighting the rapid spread and efforts undertaken to halt the disease in order to comprehend not only the current challenges but the ongoing issues that have plagued epidemiologists since the diseases inception.

The world first became aware of a devastating new infection in mid-1981. Several homosexual men presented with a form of pneumonia at three different Los Angeles hospitals in the US. Medical staff noted that the men showed marked depletion of the T-lymphocytes. These initial patients were soon followed by a number of other previously healthy young homosexual men presenting with opportunistic infections and rare malignancies (Sharp & Hahn, 2011). These health scenarios had never been seen before and initially medical practitioners had no comprehension that they were seeing a new disease threat.

It soon became apparent that they were at the early stages of an epidemic of unknown cause that they were unable to identify. Fear became rampant in the homosexual community with every new infection and it soon became known as the ‘gay plague’ (Greene, 2007). It was a new type of infection and it invariably led to death. In the initial stages of the spread of the disease it was named the Gay Related Immunodeficiency Deficiency (GRID) in the US (Yuk-

Ping Lo, 2015). However, after infections began to spread to non-homosexual cohorts the Centre for Disease Control (CDC), in September of 1982, named it AIDS (Greene, 2007). It soon became apparent that it was not confined to the homosexual community when PWID started to become infected. Due to its absence in the general community at that time it was considered to be a lifestyle disease caused by the risky behaviours of those infected (Greene, 2007; Mann & Tarantola, 1998).

Over the course of 1982 information concerning infection among partners and a national case study suggested that it was sexually transmitted (De Cock, Jaffe & Curran, 2012). By January 1983 the major transmission routes, that of blood, sexual contact and MTCT, had been established. The causative agent was still unknown at that time and as such cases were identified at the end stage of the disease once an individual had progressed to AIDS (De Cock, et al., 2012).

The US epidemic is understood to have resulted from an infected individual, or individuals, entering the US from Haiti. It is believed that infection in Haiti was spread from Africa in the 1960s (De Cock, et al., 2012). At the time of discovery in the US the new disease attacking the immune system had not been reported anywhere in the world. What was then unknown but soon to be discovered was that the disease had been running unchecked throughout the African continent and was present in other countries. Places that were apparently free from disease soon showed visible evidence of the disease and the death resulting from it (De Cock, et al., 2012). As a result, when testing began, incidences of AIDS went from an epidemic limited to the US to millions affected globally within a decade.

The beginnings of the HIV/AIDS pandemic has been traced back to four unique cross species zoonotic episodes and correspond to the different main strains M, O, N and P. Epidemiologic backtracking has been accomplished through historical records, genetic sequencing and the use of molecular clocks (Korber, et al., 2000). This has allowed for an estimation of the three main crossover infections (M, O, N) as occurring around 1908 (M), 1920 (O) and 1963 (N) (Tebit & Arts, 2010). It is believed that the HIV-1 subgroups originated from the equatorial forests of the Cameroon in West Africa (Tebit & Arts, 2011). From there they spread to Zaire (now the Democratic Republic of the Congo) and from there through the rest of Africa. The epidemic began its spread in central Africa in the 1970s and by the mid-1980s the majority of sex workers in Kenya were infected (De Cock, et al., 2012; Greene, 2007). The virus then

continued to spread through the continent and at the present time sub-Saharan Africa bears the majority of the global HIV/IDS burden.

The causative agent HIV was discovered during the period from 1983 to 1984 and in 1986 became known as HIV. Once that became known efforts to understand the virus and attempts to create a way to identify it in infected persons were implemented. This was achieved in 1985 with the first blood test (Greene, 2007). Attempts to discover a treatment and vaccine began in earnest. Since the early years of the pandemic there has been ongoing attempts to understand the drivers of HIV in diverse populations. Behavioural interventions, from those highly stigmatising initiatives of the early years to more sensitive initiatives of recent years, have progressed alongside the molecular interventions that have continued to improve since the discovery of HIV as the causative agent.

The spread of HIV/AIDS has been dynamic and over the past thirty plus years epidemics have manifested in all countries. There are diverse epidemics with differing subtypes driving them but they all share common themes. MSM, PWID, MTCT, and CSWs have been key populations since the epidemic first appeared. Fortunately, they have moved from being the blaming dialogues of the early years and being labelled as high-risk populations to the more current understanding of their key role in the HIV epidemics. When AIDS first emerged on the scene it was something that had never been faced by the medical community. There were no existing protocols or understandings on how to treat such a disease. Amazing progress has been made over the past thirty years and the world is on the cusp of moving HIV/AIDS from a death sentence to a chronic disease. Indeed in high-income countries this has all but occurred. Regardless of significant medical breakthroughs HIV/AIDS is still a death sentence in many countries due to a lack of access to human security initiatives.

In addition, the history of the HIV/AIDS epidemic has revealed that while advancements in technology have enabled many HIV+ people to live almost full-term life expectancies, these advancements have also resulted in certain complacencies. Particularly in countries where access to ART (including PrEP and PEP), microbicides and good medical services lull communities into believing that contracting HIV is not so horrendous as it once was. In low and middle income countries, such as China, preventing the spread of HIV/AIDS is still an enormous economic and political challenge.

## **Conclusion**

Having examined the mechanisms by which HIV enters the human body it is clear that protection through the use of a barrier such as condoms, is an essential mechanism for prevention. Yet, there are high rates of non-condom usage throughout key populations due to behavioural norms and misunderstandings about the effectiveness of ART and microbicides as stand-alone prevention measures. When considering the pathogenesis of HIV in this chapter it is obvious that there are extreme challenges in dealing with a virus of such high diversity, rapid rate of production and ability to adapt and form new strains. There are now some fifty-one CRFs in circulation throughout the different epidemics globally and there are likely to be many more before HIV becomes a thing of the past. Furthermore, the high rates of STIs within societies and in particular key populations mean that there is an epidemiological synergy in place. STIs are proven to exacerbate HIV infectiousness through an increase of viral shedding in the genital tracts; inflammation causing higher levels of HIV target cells; and disruption to the integrity of the epithelial layers of the genital area. In general the human body is effective at repelling pathogens but when there are already suboptimal health conditions HIV takes advantage of the opportunities provided and slips through the defences.

The situation for HIV/AIDS and STIs in China reveal that there is a high possibility of HIV rapidly expanding if complacency becomes the norm. There are new CRFs in circulation within China as well as a continued spread of existing strains. The PRCs sustained political will and determination to support the most vulnerable within China's expanding population will be an overarching need for any real success in the continuing HIV/AIDS epidemic. When added to the challenges inherent in dealing with human beings and their cultural and behavioural biases and norms, HIV/AIDS constitutes a formidable adversary. Within China and globally, high-risk behaviours in key populations continue to be problematic.

As shown in the brief history of the pandemic, the news is not all negative. While in the beginning of the epidemic there were deleterious attitudes and modes of addressing the disease these are becoming things of the past. Contentious understandings and imputations of responsibility towards populations have now given way to more deliberate attempts to be inclusive rather than marginalising. Stigmatisation has been recognised to add to the challenges of HIV/AIDS epidemics. There are new discourses emerging that call for an

acknowledgement that in dealing with HIV/AIDS it is paramount to deal with the cessation of behaviours that further push vulnerable populations underground. Only then will the true nature of the epidemic be revealed and efficiently addressed by interventions.

## **Chapter Three: Global best practice**

Distant water won't help to put out a fire close at hand

远水救不了近火

### **Introduction**

Having gained a sufficient understanding of the challenges inherent in the HIV virus, through the previous chapters' exposition of HIV/AIDS pathogenesis and epidemiology, this chapter explores the GBP for addressing those challenges. . Further, it considers which GBP are considered most effective for addressing the manifold epidemics being presented on national agendas. As the brief history in this chapter shows, GBPs have been developed over the life of the epidemic and present strategies most liable to be adaptable and efficacious in different settings. Thus, this chapter addresses the myriad of ways that treatment and prevention strategies, or GBP, have been developed and adapted within specific cultural environments. Fundamentally, GBP is an evolving methodology that informs these prevention and treatment strategies; which can then be applied to specific HIV epidemics. It is not only comprised of information found to be effective in regional epidemics but also serves as a useful standard to measure the appropriateness of a country's response towards HIV/AIDS epidemics within their borders. It is not mandatory for nation-states to adopt HIV/AIDS GBP but if they are serious about making a concerted effort to halt the spread of HIV then embracing the wisdom of those who have dealt with similar issues seems intuitively sensible.

In general, these GBP have been presented through UN agencies that work with researchers and other governmental and non-governmental agencies trialling different HIV/AIDS programs worldwide. They have been refined throughout the almost thirty-five year HIV outbreak and have been adapted and developed as new research into the biomedical, social and governance aspects of the disease have been established. Therefore, this chapter also explains some of the key aspects of the spread of HIV/AIDS in global epidemics and how GBP have been developed and utilised to address the disease and best meet the needs of PLWHA.

Consequentially, along with the changes in GBP methodologies there has been a change in the language used to refer to different cohorts or key populations. One reason for this changing language is a growing sensitivity to the ways that the general population may

perceive and stigmatise PLWHA. Recently the term for cohorts who inject drugs was changed from injection drug user (IDU) to people who inject drugs (PWID).<sup>9</sup> While the distinction may be subtle, the first term defines them as a person; the second explains one aspect of their lives. In a similar way high-risk populations are now referred to as key populations. The first stigmatises their behaviour, and by extension them, as being generally responsible for the spread of HIV. The second acknowledges that while they have an influence, there are a multitude of sociological and biological extractions exacerbating the growth of HIV epidemics.

Indeed, stigma reduction efforts form a basis for the GBP needed to achieve sustainable and long-term treatment efficacy. The millennium development goals (MDGs) relating to HIV/AIDS<sup>10</sup> acknowledge that simply ‘knowing your epidemic and knowing your response’ is insufficient. It is equally important to understand the ways that HIV/AIDS interacts with human security threats such as stigma, poverty, income inequality, gender, education and other structural drivers in order to reduce the rate of new infections to zero (Kim, Lutz, Dhaliwal & O'Malley, 2011). This thesis adds to the data that makes that nuanced understanding possible.

One of the main foci of policies such as the MDGs is the determination to provide ART to all eligible PLWHA. ART has a tremendous impact on the spread of HIV and in countries where ART is affordable or free the disease has moved from a guaranteed death sentence for the vast majority of PLWHA to a chronic health issue. Some of the countries with the greatest prevalence have the least resources to deal with it. AIDS continues to take the lives of more than a million people globally each year. Additionally, ART regimes are not a ‘magic bullet’ for the eradication of HIV. The disease must be considered holistically, with both medical and behavioural initiatives focused at fulfilling the human security needs of every population through which it passes.

This is particularly the case in China where cultural norms have created an environment where the needs of the masses trump the needs of the vulnerable. Arguably, this is done regardless of their individual human security needs and generally in order to mitigate their impact on the general population. When considering the potential magnitude of the threat, as

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<sup>9</sup> This was evidenced at the recent AIDS 2014 conference where the term PWID was used in place of IDU.

<sup>10</sup> Number six calls for extraordinary action to halt and begin to reverse the AIDS epidemic. See Appendix 2

explored in the UNAIDS (2000) *HIV/AIDS: China's Titanic Peril* report, the human security of PLWHA needs to be among the government's main security priorities. While issues of human security, especially those of PLWHA, will be explored in a further chapter, at this point it is essential to understand once HIV becomes a generalised epidemic (and scholars argue that it already has in China) then the methods considered sufficient for eradicating it in specific key populations become inadequate. One of the key functions of GBP is to prevent epidemics from becoming generalised. Significantly, it is no longer possible to just deal with vulnerable populations as disease bridges needing to be closed off to protect general populations; rather grassroots interventions that meet their needs as individuals must become dominant. At that point meeting the needs of the vulnerable becomes a valuable tool for inhibiting the spread of disease into the general population.

China has made some progression in implementing some of the GBP but it is prudent to say that there are improvements to be made before those programs generate a genuine and lasting impact on the overall epidemic within China. When compared to other countries who have been dealing with long-term epidemics and indeed informing GBP through their experiences; China still needs to accelerate measures to deal with key populations – particularly those with extremely high percentage rates of infection. Again, this can be achieved best by addressing the human security needs of these vulnerable populations. Strategies dealing with poverty reduction, employment, education, affordable medical services target the problem at its nexus with HIV/AIDS. This chapter therefore also considers China's current application of GBP.

While in general China has attempted to adopt and adapt GBP there is a breach between the existence of programs and their adequacy in dealing with the magnitude of the problem being addressed. The main forms of GBP adopted by China include condom programs, MMT and syringe exchange, stigma reduction programs, and HIV education programs for key populations. In China most HIV/AIDS education initiatives aimed at the general public are presented on world AIDS day. Whether this is adequate is debateable and considering that the epidemic is now sexually driven it becomes essential to ensure that those engaging in sexual activities, particularly high-risk sexual activities, are well informed about prevention measures.

The next section of this chapter explains the rationale and history of GBP. It is helpful to understand the various aspects of how these practices are developed in order to comprehend

the depth of knowledge and determination being expended on halting the global HIV/AIDS pandemic. While GBP remains flexible, changeable and continues to evolve there is an established base line for dealing with epidemics.

## **Overview of GBP**

The sharing of GBP is the responsibility of the UNAIDS secretariat. Information is gathered and considered with the support of co-sponsors such as United Nations Office on Drugs and Crime (UNODC), United Nations Children's Emergency Fund (UNICEF) and the World Health Organisation (WHO). The original mandate for the collection of GBP was made in 1994 by the Economic and Social Council that established UNAIDS (Funnell, 1999). GBP is established through making judgements about information received from researchers, NGOs, INGOs, State governments, PLWHA and other sources. Two processes assist with this task; firstly, the documentation of anecdotal evidence about successful interventions whether fully or partially successful; and secondly through a thorough analysis of the information using set criteria (UNAIDS, 2000). These criteria are effectiveness, efficiency, relevance, ethical soundness, and sustainability (UNAIDS, 2000b). Using these criteria UNAIDS are able to ascertain a program's strengths and weaknesses and efficacy and shortfalls (UNAIDS, 2000). This information is then made available and used by HIV/AIDS practitioners to further their existing programs or implement new programs. They in turn, make the results of these ongoing initiatives available to UNAIDS to be considered as candidates for GBP.

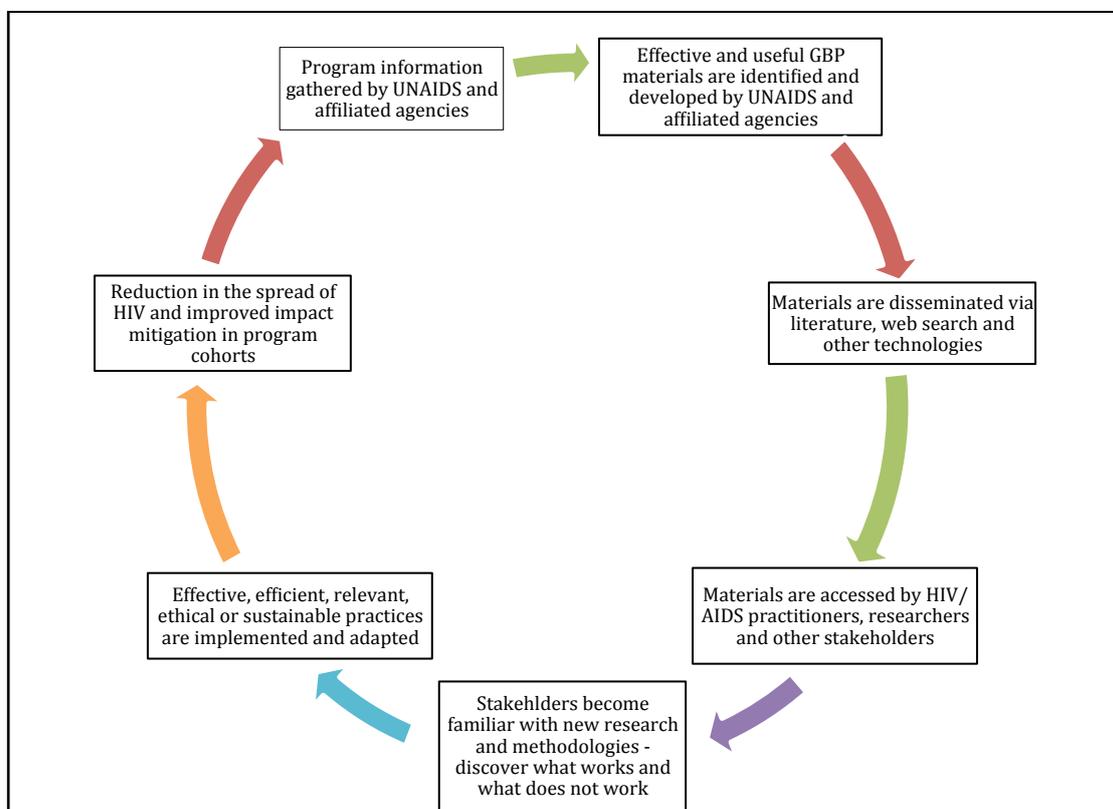
GBP might be considered a depository of information and documentation concerning the lessons that have been learned by practitioners at the forefront of HIV epidemics – what worked and what did not work. As such, they are not comprised of exactitudes nor do they inculcate 'one-size fits all' paradigms. Rather, their purpose is to identify and disseminate knowledge about the most effective responses in different HIV epidemics, in a variety of contexts (UNAIDS, 2000). As such, they are applicable at a global policy level. According to Hankins and Zalduondo (2010) 2005 global policy guidelines called for:

...strategic, simultaneous implementation of a combination of evidence-informed policies, and programmatic actions, including biomedical and behavioural approaches, promoting gender equality and protection of human rights, to reduce HIV risk, vulnerability, and impact. (s. 71)

Using GBP allows countries to benefit from understandings gained in ongoing HIV/AIDS epidemics and pool that knowledge together with the situational variables of their individual epidemics to promote best outcomes in both prevention and treatment.

Even so, something that might work in one situation might be totally ineffective in another or may need to be adapted to be even partially successful. Consequently, GBP is about saving time and learning from the successes, and mistakes, occurring in different contexts and cultural environments. As the HIV/AIDS epidemic continues, procedures and policies are analysed and reanalysed over time in a type of cyclical distillation process (see page 89, Figure 9). Characteristically, successful intervention efforts are not simply dependant on being conversant with the commonalities of HIV/AIDS epidemics but rather the differences (culturally, environmentally, politically) specific to each situation. Ultimately, regardless of the cultural situation, there are commonalities in all HIV/AIDS epidemics such as key populations, high-risk behaviours, and the need for successful treatment and education programs. Understanding these commonalities is the starting point for any treatment and prevention efforts.

**Figure 9: Cycle of GBP**



Sourced from: Compiled by Author adapted from Funnell (1999, p. 11)

An important aspect of GBP, and for gaining a comprehensive understanding of the epidemic in general, is to engage with communities of PLWHA. These communities are uniquely situated to provide inclusive understanding of the needs and challenges that they are facing on a daily basis. Indeed, many past HIV programs have been discriminatory, stigmatising and alienating due to lack of consultation. Likewise, GBP acknowledges the need to seek advice and understanding from a broad cross-section of the members of key populations (regardless of their HIV status). As mentioned previously, these populations are often impermeable to outsiders and are thus hard to reach and difficult to understand.

Key populations (FSWs, PWIDs MSN, migrants, MTCT) are common to all HIV/AIDS epidemics globally. As such, there are arrays of GBP dealing with the methodologies to curtail HIV in these populations and prevent them functioning as bridging populations into the general community. Often these programs and policies need to be adapted for specific cultural environments. Some GBP, such as the use of condoms, are practical intervention methods applicable in all HIV/AIDS epidemic contexts.

Just as there are different HIV/AIDS epidemics, there is a diverse range of GBP. The scope of this thesis does not allow for all of them to be considered; and their non-inclusion should not be perceived as a commentary on their effectiveness or value. As such, even though the GBP are discussed in a global context, only the most widely used and most applicable to the HIV/AIDS operational environment in China are considered in the following section. While there is comprehensive evidence pointing to the value of male circumcision and pre-exposure prophylaxis (PrEP) and post-exposure prophylaxis (PEP) these interventions are not commonly being undertaken in China. Additionally, as they are also outside the scope of this thesis, GBP concerning safety of blood supplies, MTCT and children are also not considered.

### **More recently implemented GBP**

As alluded to in the previous chapter concerning the history of the HIV/AIDS epidemic, there have been a number of different intervention processes tested since it first became apparent that high-risk behaviours were a part of the cycle of infection. As knowledge has increased so too have interventions and GBP has become more sophisticated and tailored to the specific needs of populations. While the need to protect uninfected populations has always been paramount there is an increasing acknowledgement that specifically addressing the needs of

HIV+ individuals and members of key populations has an effect on epidemics as a whole. This section discusses three of the more recent GBP strategies – ‘know your epidemic, know your response’; TasP; and the cascade of care. Together these are often labelled as combination treatment and prevention strategies. Essentially, the knowledge of the specific epidemic works in collaboration with ART regimes and the ongoing cascade of care to help ensure that PLWHA maintain ART to both prevent mortality and prevent further spread of the disease.

Accordingly, in order to be able to implement the most effective defence it is essential to know your epidemic in order to know your response. You cannot implement efficacious interventions if you do not understand the drivers of the epidemic being targeted. GBP must be adapted, refined and made sustainable in order to have any reward of having a substantive impact. Indeed a part of GBP is recognising that different epidemics may have similar drivers but none of them are exactly the same. Cultural norms, physical environment and national governance and priorities all have a role in the unique way that HIV/AIDS epidemics spread throughout different communities. To reiterate, what worked successfully in one epidemic with similar features may be less effective in another.

TasP has been developed to embrace observations that not only does ART have a life sustaining effect on the PLWHA it can also drop their HIV infectiousness to a point where it is useful as a prevention measure. Although drug trials have been implemented for many years and there was evidence of this occurring it has only been in the past two years, as evidence has demonstrated its efficacy and sustainability, that TasP has been fully advocated as a GBP. Along with the efficacy and sustainability of TasP as a prevention measure the continued advancements in ART have refined drug regimes in order to make them easier to maintain.

Moreover, in a symbiotic synergy it has been acknowledged that along with long-term drug regimes and TasP more comprehensive and holistic health care environments should be embraced. TasP only works if PLWHA continue to adhere to the correct regimes. The cascade of care GBP recognises that PLWHA need sustained and empathetic health care delivery and programs. The ART drug regimes can be brutal on the body and many drop out before getting through the most difficult initial period. Additionally, with the threat of drug

resistance always in the background monitoring PLWHA on ART is essential. Combined, these three initiatives form a part of current strategies to address the HIV/AIDS pandemic.

### **Know your Epidemic, Know your response**

Understanding the epidemiology of HIV is essential for the successful implementation of HIV/AIDS GBPs. UNAIDS advocates a ‘know your epidemic, know your response’ methodology as advantageous in responding to HIV/AIDS epidemics. Consequently, the WHO and UNAIDS 2011 report (2012) states:

The selection of which HIV prevention programme components to deploy for which priority populations must be based on a clear understanding and mapping of the national epidemiology of HIV – who is acquiring HIV, where, how and why – to design the appropriate mix of prevention programmes. To successfully limit transmission, effective prevention services must reach the areas and populations where HIV is spreading most rapidly. Achieving population-level impact requires that programmes be implemented at the necessary scale and intensity. (p. 62)

The main reason for this is that many countries face mixed epidemics and may have varied infection rates within different subpopulations and indeed a range of different strains of HIV being spread. Without understanding the dynamics within the separate epidemics it is impossible to know which programs work best and what level of population coverage is required to make a long-term impact both on the spread of HIV within these groups and externally into different population cohorts.

Ultimately, when the programs are implemented without a comprehensive understanding of disease drivers, precise HIV strains and detailed challenges within a specific epidemic ‘back doors’ are left open and the response is likely to be ineffective or at best diminished. Thus, understanding the ‘who’, ‘where’, ‘how’ and ‘why’ of HIV infection in China forms a basis for this thesis. When these questions are answered it becomes clear that a lack of human security for individuals is influencing the epidemic in China. The ‘who’ (key populations, and increasingly, the general population) have specific human security needs that are not being met (such as economic security, political security, community security, health security and food security) often leading them to high-risk behaviors that impact the ‘how’ and ‘why’ of transmission. The ‘where’ intuitively refers to geographical locations but could also refer to the spaces of infection. The intimate spaces where HIV is transmitted; the hard to reach spaces where key populations congregate; the political spaces where decisions are made; and

the medical facilities where infections are treated. This thesis expands upon current understandings in order to clearly identify the unique challenges faced by the thesis cohorts (the who and why) and the PRC's present shortfalls in addressing those needs (the where and how).

Undertaking to 'know your epidemic' enables stakeholders to gain an understanding of where the next 1000 infections will occur; while 'know your response' is useful for identifying existing program gaps and analysing where resources can be allocated for maximum impact in epidemics (Hankins and Zaldondo, 2010). This is not only essential for providing viable treatment programs but also for understanding and implementing successful prevention programs. The 'know your epidemic, know your response' methodology is necessary for all HIV/AIDS epidemics but is particularly applicable when undertaking combination care for PLWHA. Optimal treatment with ART is facilitated through understanding which specific strain, or strains in the case of multiple infections, of HIV have been contracted. In addition to which, simply engaging in ART is not an assurance of success in the management of HIV/AIDS as a chronic disease.

Knowing, and understanding, the environmental and behavioural conditions engaging PLWHA enable doctors and other health care workers to provide the necessary assistance for maintenance of ART regimes. The needs of PWID vary considerably to those engaged in commercial sex work or indeed pregnant women or labour migrants. While acknowledging that many PLWHA who could legitimately be undertaking ART are unable to access the required drugs (for a myriad of reasons including poverty, stigma, ignorance of status and prosecution for illegal activities) ART has emerged as one of the most essential tools in the box of program measures. The next section considers ART not only in its long-term function of obviating mortality but also in more recent years as a prevention method in and of itself.

## **TasP**

Present thinking on GBV suggest that while ART is primarily concerned with preventing mortality and morbidity it may be an efficient manner of preventing new infection (Montaner, 2014). ART has been utilised for more than twenty years. Since the identification of HIV and with improvements in drug therapies there have been significant improvements in long-term outcomes. Indeed it has long been understood that ART has the potential to be effective in

preventing transmission of HIV in various contexts (Slavin, 2015). As a result of this understanding trials have been undertaken for a number of years with comprehensive results indicating that the implementation of TasP strategies is both viable and sustainable (Cohen et al., 2011).

Consideration of the biomedical and immunological data concerning treatment regimes is beyond the scope of this thesis. However, the research has concluded that current ART regimes are effective in obtaining viral suppression in treatment-naïve individuals regardless of the type of strain being treated (Bangsberg, 2010; Santos & Soares, 2010). With ART the immune system can recover and viral suppression virus loads can become minimised in blood and genital mucosal secretions therefore resulting in a decreased risk of ongoing transmission (Cohen et al., 2011). Interestingly, there is little longitudinal information concerning the ramifications for different first and second line treatments on drug resistance across different clades of HIV and therefore more research needs to be done in this area (Santos & Soares, 2010). Additionally, ART is unable to completely eradicate HIV infection and thus leads to perpetual (lifelong) expenditures and increased toxicity and susceptibility to health complications such as non-AIDS morbidity or premature aging (Autran, Hamimi & Katlama, 2014; Deeks, Lewin & Havlir, 2014; Nakagawaa, Mayb & Phillipa, 2013). However, what is indicated is that ART is effective regardless of epidemic setting and therefore presents a viable approach, combined with behavioural and educational strategies, for the prevention of ongoing transmission.

In order to maximise the benefits of ART in TasP contexts it is essential to administer ART drug regimes in an efficient and sustainable manner. As mentioned in the previous section, this cannot be done without a comprehensive understanding of the main drivers for the spread of various HIV subtypes and clades throughout communities. Additionally, considering the limited number of eligible PLWHA accessing ART, there must be a scale up of existing efforts. In order for TasP initiatives to have an optimal impact on global epidemics the majority of ART eligible HIV+ individuals must be initiated into TasP regimes and retained in treatment.

One of the main difficulties in the TasP initiatives is the ongoing inequalities in access to ART for key populations. Although specific data remains severely limited, it has been well

established that HIV disproportionately affects key populations (such as sex workers, MSM and PWID), which are also mobile, marginalised and stigmatised. As a result of fears concerning the illegal nature of their activities coupled with legal and human rights complications, many individuals in key populations, regardless of eligibility for ART, do not seek early access to ART (many presenting only after entering the AIDS phase where low CD4 counts allow for opportunistic infections) or have high attrition rates due to mobility or complications due to lack of human security. When health and human security disparities, such as food insecurity, are not addressed the full benefits of ART are not realised (Kalichman, Hernandez, Cherry, Kalichman & Grebler, 2014). Indeed, this is one of the concerns raised by participants during the field research for this thesis.

In accelerating the availability of ART globally it has become obvious that a comprehensive clinical care and monitoring system must be in place. As HIV/AIDS moves towards becoming a chronic medical condition globally, previous programs dealing with HIV as an acute and emerging threat must be adapted to cater for ART maintenance stretching into decades, with the probability of younger HIV+ individuals likely to be receiving treatment for 3 to 4 decades due to increased life expectancy (Nakagawaa, Mayb & Phillipsa, 2013). In addressing the changing nature of HIV life expectancy, the cascade of care has emerged as an essential tool for understanding the long-term attrition and sustainability of ART regimes. It is discussed in the following section.

### **Cascade of care**

The ‘cascade of care’ or treatment cascade (hereafter referred to as the cascade) is a relatively new initiative that considers the spectrum of interventions that might be undertaken by PLWHA. It provides a quantitative delineation of the discrete (yet synergistic) steps an individual passes through along the HIV care continuum. As discussed, in recent years studies have discovered that ART has implications not only for reduced mortality but also to aid prevention efforts. With this new understanding it becomes essential to ensure that individuals become aware of their HIV status and be routed into programs and health initiatives that lead to sustained retention on ART programs.

Currently, only a percentage of individuals eligible for ART are actively engaged within treatment programs. For example, in Sub-Saharan Africa, more than three quarters of

PLWHA have not achieved viral suppression due to gaps and shortfalls in the HIV care continuum (UNAIDS, 2013). In assessment of the cascade of care, considering the significant costs and challenges of providing ART, the optimisation of treatment through attention to the cascade provides a promising framework for ongoing ART programs (Hallett & Eaton, 2013). Significantly, it is a useful concept for linking PLWHA eventual outcomes with the processes along the timeline from diagnosis through to viral suppression. This is regardless of the fact that PLWHA may not have undertaken ART for many years after becoming aware of their status (Hallett & Eaton, 2013).

Therefore, the cascade is recommended as an essential interpretive tool for the analysis and identification of 'leakage' points, or attrition from treatment occurring along the HIV care continuum and as such it is a focal point for TasP initiatives (Kilmarxa & Mutasa-Apollo, 2013; Lourenço et al., 2014; Nosyk et al., 2014). Significantly, the cascade has become a focal point in order to effectively manage, maximise efforts and increase the beneficial effects of HIV treatments, as well acting as the premier assessment and monitoring metric for global TasP response and reporting (Nosyk et al., 2014, p. 42).

Additionally, the cascade emphasises that HIV+ individuals need ongoing and sustained care from the point of diagnosis and that the provision of ART alone does not guarantee successful treatment for PLWHA. The cascade is an important methodology that graphically demonstrates the key transitions along the HIV treatment continuum and their impact on viral suppression (UNAIDS, 2013). Furthermore, in addition to identifying the leakage points, it is a useful tool for determining the types of care individuals should be receiving and ascertaining the treatment that PLWHA are actually receiving (Hallett & Eaton, 2013). There are five specific points on the cascade continuum. The individual stages range from testing for HIV through to all steps leading to the ultimate goal of virologic (HIV-1 RNA viral load) suppression, preferably before the development of HIV-related complications (Alvarez-Uria, Pakam, Midde & Naik, 2013). The specific steps are as follows: 1) testing to ascertain HIV status; 2) Linking HIV+ individuals into clinical care; 3) retaining HIV+ individuals in pre-ART care for monitoring leading to ART eligibility (this stage may continue for years before a HIV+ individual manifests decreased CD4 counts); 4) the initiation of ART; and viral load suppression through ART adherence and retention in clinical care (Hallett & Eaton, 2013; Kilmarxa & Mutasa-Apollo, 2013; Mugavero, Amico, Horn & Thompson, 2013; UNAIDS, 2013).

Without a complete adherence to the cascade the long-term outcomes of ART regimes are likely to be suboptimal resulting in late or no initiation of ART, high attrition rates, and poor viral load suppression (Alvarez-Uria, Pakam, Midde & Naik, 2013). This is applicable not only for the individuals undertaking therapies, but also for the cessation of ongoing HIV transmission in a wider societal context as evidenced by increased risk of HIV-related morbidity, transmission and ultimately, individual mortality (Lourenço et al., 2014; Nosyk et al., 2014). The cascade is therefore useful for identifying problems related to program deficits such as late diagnosis of HIV status, deficits in linkage and retention of individuals, poor treatment adherence and low levels of ART coverage (Hallett & Eaton, 2013; Nosyk et al., 2014).

To fully represent the cascade and identify points of weakness large amounts of data must be collected and collated in order to identify the numbers and demographic characteristics of HIV-infected persons either lost to care at 'leaky' points on the continuum or (where possible) discrete from the cascade. Additionally, the cascade's identification and tracking of HIV-related health disparities and inequalities should identify existing challenges and inform future planning by provincial bodies (and assist in assessing their methodology and efficacy); and allow for the potential redistribution of resources thereby improving efficiency, population coverage, quality of care, and reducing health disparities (Nosyk et al., 2014). Thus the information contained in this thesis adds to the cascade in China by identifying the existing challenges and shortfalls presently contributing to leakage points on the HIV/AIDS continuum. Additionally, the cascade indicates that its use in non-clinical settings may also be appropriate, given the right training of individuals and specific reporting and follow-up procedures. This has immense implications in settings for highly mobile and marginalised populations, as they would be able to access ART in settings where issues of stigma and the illegal nature of their activities would be inconsequential to obtaining care. In the context of China it would mean that PLWHA would not have to live with the fear of having to access medications at government run facilities.

To reiterate, each point of the cascade has been recognised as essential for ART programs to achieve optimal results in the treatment of individuals (resulting in reduced mortality and morbidity) as well as contributing towards long-term positive impacts on HIV/AIDS epidemics (due to reductions in ongoing HIV transmission as evidenced by TasP initiatives). Vast amounts of data must be collected at all points on the care continuum in order for the

cascade to correctly identify attrition trouble spots. Indeed, in many countries eligible persons are not receiving treatment. This has enormous implications for countries such as China where the health systems and data surveillance capacities are generally overburdened and inefficient.

In terms of GBP the cascade offers a clear road map for stakeholders to follow in assessing the current challenges and shortfalls in retention of HIV+ persons on the HIV care continuum. When utilised in combination with other HIV treatment and prevention strategies comprising existing GBP the cascade is a valuable tool for HIV/AIDS programming efforts. This chapter now considers some of the longer-term GBP that work in conjunction with the emergent methodologies. These strategies are essential regardless of knowledge of HIV status or ART eligibility. These GBP (stigma reduction, MMT and condom distribution) address the behavioural and situational implications of HIV epidemics.

### **Longer-term GBP**

Educating people on the causes and effects of HIV/AIDS is paramount in dealing with persistent epidemics. If people do not know how to prevent themselves from acquiring HIV they do not know what measures to take. There are a number of existing strategies that have been in place and adapted for various epidemics since the early appearance of HIV. The mainstays of all HIV epidemics (although policies and application parameters differ) are the distribution and education of stakeholders about the benefits of condom usage for prevention of transmission; MMT and needle sharing programs aimed at mitigating the sharing of needles and reducing the high-risk behaviours attached to injection drug use; and lastly, stigma reduction efforts due to the enormous effect that feelings of stigma and shame have on PLWHA accessing treatment programs and ascertaining their HIV status.

The stigma of PLWHA is a relentless global problem. The ramifications of the high stigmatisation of these key populations lead to enduring effects in HIV epidemics. People who suffer from stigma or discrimination are disinclined to put themselves into positions of suffering. When a person knows they will be punished and treated badly because of HIV+ status they would rather not know that they are living with the disease. Even if it means that they cannot access support networks, medical interventions and life-saving ART. Of course,

it also means that they are unaware of the need to use protection when undertaking sexual activity.

Stigma and discrimination has been identified as being one of the main prohibitions to effective HIV treatment and prevention for PLWHA (Chen, Choe, Chen, & Zhang, 2007; Mahajan et al., 2008; S. Wu et al., 2008). Extensive research has been undertaken concerning the results of stigma on health outcomes and they are far reaching and devastating. The UN suggests stigma and discrimination:

...discourage people from seeking information and using services that can prevent HIV infection, hinder them from knowing whether they are infected, and impede access to treatment, care and support. (UNAIDS, 2011, p. 131)

For the individual being stigmatised issues of shame, low self-esteem and isolation may lead to both mental and physical health problems (Su et al., 2013). Discrimination may also result in denial of employment, educational opportunities and even in some medical settings, denial of services (Burki, 2011; UNAIDS, 2011).

Ultimately, stigma sets people apart from others and leads to the stereotyping of certain individuals as undesirable. Individuals are no longer considered normal but rather tainted and marked as different. People being stigmatised become a different type of person and are often no longer accepted into the community. They become outsiders and set apart. Stigmatisation of individuals allows collectives of people to band together in mutual contempt for the person being perceived as undesirable. In this manner they collectively identify stereotypes and determine agreed upon responses for dealing with and discriminating against those considered divergent from the norm. By devaluing the stigmatised individuals and placing them into a context of social undesirability the collective group is permitted to feel superior.

Reasons for stigma might not be established in fact. A person may be stigmatised simply due to perceived difference. For example, in HIV/AIDS scenarios individuals may be stigmatised, and relegated to a position of inferior status, if they are perceived as having the disease regardless of whether they are actually infected or showing symptoms of AIDS. This causes extensive long-term detrimental effects on the individuals being stigmatised. The psychological effects due to the negative feelings associated with their undesirable difference are compounded by very real physical limitations. Social connections are severed, relationships are ended, and resources and support networks are diminished. In situations of

HIV/AIDS this can lead to unemployment, homelessness, and ultimately sub-optimal health outcomes. Therefore it is essential to apply GBF to the issue of stigma as such it is useful to gain a nuanced understanding of what is meant by the term stigma.

Drawing on research undertaken during time in psychiatric hospitals and with members of society considered to be socially deviant, such as homosexuals and criminals, Erving Goffman posited a foundational definition of stigma that has informed general understandings of stigma in a HIV/AIDS framework. He defined stigma as 'deeply discrediting' in a manner that differentiates a person from being whole and normal to being tainted or spoiled, discounted and undesirably different (Goffman, 1963). Thus, this binary (whole and normal: spoiled and undesirably different) devalues people due to perceived difference. Unfortunately, this focus on the individual as being undesirably different seems to have led to misconceptions that if HIV/AIDS were understood more than PLWHA would no longer be stigmatised.

Obviously, this conceptualisation of stigma is limited in scope and does not take into account cultural or social aspects of stigma. Indeed, Parker and Aggleton (2003) advise the characterisation of people as being undesirable contextualises stigma as a static attribute that is mapped onto people, rather than a changing and often contested social process. Further, they propose that this understanding of stigma has limited the ways in which stigma and discrimination have been dealt with in HIV/AIDS settings (Parker & Aggleton, 2003). Even though definitions of stigma have been constrained by focusing on the individual as an object of stigma, Goffman (1963) suggested that stigma is also about relationships as well as undesirable difference. Therefore, stigma is best viewed as a societal phenomenon, dependant on the actions of groups of people.

Central to this sociological understanding of stigma is the intersection of power dynamics, whether economic, social or political, that enable individuals to operate as collectives to identify undesirable differences; generate stereotypes; and discriminate against those perceived to exhibit negative stereotypic manifestations divergent from the agreed upon rules governing cultural norms (Mahajan et al., 2008; Parker & Aggleton, 2003). As such, stigma is rooted in the structure of a society and generally intended to shame and discredit certain groups (Zefi, 2013). Goffman (1963) stated:

By definition, of course, we believe the person with a stigma is not quite human. On this assumption we exercise varieties of discrimination, through which we effectively, if often un-thinkingly, reduce his life chances. (p. 14)

The stigmatised person comes to inhabit a space of social inequality that permits one group to feel superior while devaluing another (Parker & Aggleton, 2003).

Due to its concise summation and usefulness, this thesis adopts the following definition of stigma suggested by Hatzenbuehler, Phelan, and Link (2013). For these scholars:

Stigma is defined as the cooccurrence of labeling, stereotyping, separation, status loss, and discrimination in a context in which power is exercised. (p. 14)

This definition is useful here as it highlights the distinction between stigma and discrimination. While discrimination is a constitutive feature of stigma it does not adequately encompass all of the elements of stigma such as stereotyping and labelling (Hatzenbuehler et al., 2013). Within a HIV/AIDS context Herek (2014) defines stigma as:

HIV/AIDS-related stigma (hereinafter HIV stigma) is defined here as the negative regard and inferior status that society collectively accords to people perceived to have HIV, whether or not they are actually infected and whether or not they manifest symptoms of AIDS, and the individuals, groups, and communities with which they are associated. (p. 123)

Stigma then, has long term, detrimental effects on the individuals being stigmatised due to discrimination and the negative feelings associated with their undesirable difference. Indeed, Hatzenbuehler et al. (2013) suggest:

...stigma thwarts, undermines, or exacerbates several processes (i.e., availability of resources, social relationships, psychological and behavioral responses, stress) that ultimately lead to adverse health outcomes. (p. 815)

Further, the literature suggests that stigma represents an added encumbrance that impacts individuals beyond any existing impairments or health burden (Hatzenbuehler et al., 2013). Thus, stigma has a very real impact on individuals' efforts to achieve human security. It prevents them from fully engaging in society in a meaningful manner resulting in them being unable to secure community support, education, employment and health care. Due to the overarching effects of stigma on HIV/AIDS epidemics there are a range of GBP aimed at reducing the stigmatisation and discrimination of key populations and PLWHA.

## **Stigma GBP**

In GBP dialogue, stigma reduction has consistently been promulgated as an area needing attention. It does not matter how good programs are, if people avoid attending them. Additionally, research is revealing that it is not enough to just simply apply medical solutions to problems that exist within societal constructs. Numerous studies have been done that indicate HIV-related stigma has caused individuals to delay testing, decline disclosure of status to partners and have reduced engagement with HIV services (UNAIDS, 2013). Moreover, for key populations in HIV/AIDS epidemics there is a double stigma – that of being HIV+ and engagement in socially objectionable practices. It is clear that reducing stigma related to HIV/AIDS is an area of primary concern in attempting to halt and reverse HIV epidemics.

Stigma is enacted and has repercussions for individuals across three different levels. On a macro level the obvious impacts of stigma in HIV epidemics include lack of treatment and the potential for HIV to spread through continued high-risk sexual practices between individuals. On a mezzo or community level, individuals, particularly PLWHA who are also members of key populations, suffer from extensive human rights violations such as refutation of health care provision, denial of employment, punitive law enforcement practices and enforced re-education and detention. On the micro level PLWHA, whether members of key populations or not, suffer stigma-induced feelings of shame and worthlessness, depression and feelings of suicide.

Stigma is a problem that differs according to cultural norms. There is evidence to suggest that when people are correctly educated concerning the ways HIV is transmitted, and they are provided with information on how to prevent themselves being exposed to transmission risks (such as use of condoms and not sharing needles), there is a reduction in the levels of stigma experienced by PLWHA. The imperative is thus to educate people about HIV/AIDS. This is best done in a variety of ways considering that there is no ‘one’ optimal manner of communicating information.

The media has had a long history of influencing public perceptions in HIV/AIDS epidemics, often negatively. The use of billboards, print media, celebrity advocacy campaigns and films advocating stigmatising messages concerning HIV/AIDS have a negative impact on stigma

reduction efforts (Hood, 2011). Understanding that they have the ability to sway audiences it is rational to conclude that the media have the potential to be used to reverse some of those previously negative stigmatising discourses. The use of media to promote non-stigmatising messages can therefore positively affect the attitudes and behaviours of the general population towards PLWHA.

The issue of double stigmatisation due to affiliation with a key population is more difficult to address due to entrenched cultural norms. GBPH recognises that the language used to describe key populations has had an effect on the way that they are perceived and recently changed their discourse from a focus on behaviour to their place in HIV epidemics. Micollier (2012) states:

The label "high-risk groups" reinforces the *de facto* social stigma and widespread discrimination against the persons concerned and hence their vulnerability in HIV/AIDS infection. (p. 107)

Moreover, there are structural policy interventions, such as decriminalisation of sex work and MMT and needle-syringe programs (NSPs), which may mitigate the effects of social stigma. The education of police officers in human rights and non-discriminatory practices has also proven to reduce the impacts of stigma felt by vulnerable populations. Moreover, counselling services are recommended in order to deal with emotional issues and general concerns experienced by PLWHA.

### **MMT and NSPs**

MMT and NSPs are advocated for HIV/AIDS epidemics in PWID key populations. They have proven effective in reducing the number of shared injection practices as well as subsequent criminal activity and high-risk behaviours in these populations. Opioid substitution therapy or MMT is effective because it means that injection heroin users are no longer subject to the ups and downs associated with injection drug use and are therefore less likely to engage in high-risk behaviours such as exchanges of sex for drugs or money (Zandonella, 2006). NSPs provide access to clean injection apparatus negating the need for needle sharing. Together MMT and NSPs are considered to be key interventions necessary for any successful programme to reduce HIV/AIDS transmission associated with PWID (WHO et al., 2011).

In 2010, of the 33 countries that provided data to UNAIDS, WHO and UNICEF concerning MMT and NSPs, only 3 came close to meeting the WHO recommended NSPs target of 200 syringes per injecting individual be distributed each year (UNICEF, 2011). However, many countries are substantially below that target and as such the optimal efficacy of their programs is not being achieved and there is little change being recorded in the HIV burden in these PWID populations (UNAIDS, 2013). Most recently, WHO advocated for safety-engineered syringes (WHO, 2015). These syringes have sharps injury prevention feature to prevent accidental needle stick injuries and ensure safe sharps waste management. In addition, they have a re-use prevention feature. When both MMT and NSPs are implemented as programmes according to GBPs guidelines they make a substantial contribution towards lessening the HIV/AIDS transmission risk due to high-risk behaviours in PWID communities.

Additionally, PWID are less likely to engage in acts that may be considered criminal, such as selling sex for drugs or money, and therefore less likely to be arrested and forced into mandatory drug rehabilitation and detention centres. Incarceration is in no way considered effective responses to PWID. WHO, UNAIDS and UNICEF state:

Drug detention centres have poor records in preventing drug use and high rates of recidivism. In addition, drug detention centres can enhance HIV and related risks, violate human rights and undermine the potential success of proven interventions. (UNICEF, 2011, p. 129)

Finally, MMT programs generally have a counselling component and peer support outreaches. PWID are able to access services that enable them to deal with the issues that may occur in their lives including stigmatisation and lack of employment. Additionally, for PLWHA they are able to gain information on HIV/AIDS services, including HIV transmission prevention strategies, behavioural interventions, condoms, advocacy and ART and other social and medical services.

HIV/AIDS is a blood borne disease and high-risk sharing practices and unsafe injections (including accidental needle-stick injuries) allow for a direct introduction of contaminated blood from the vector to the new host. In order to effectively reach PWID there needs to be a substantial increase in commitment to efficiently and sustainably deliver NSPs and MMT programmes. In order to make any real impact there must be an optimal coverage of PWID

populations; programmes need to reach as many PWID as possible, with sufficient numbers of needles, and in a way that is accessible (Zandonella, 2006).

## **Condoms**

The use of condoms as an effective preventative measure has been well documented and applied extensively in HIV/AIDS epidemics. Indeed condom programming is an essential component of effective prevention strategies regardless of cultural context. When used correctly and consistently they are one of the best measures for preventing transmission of HIV (UNAIDS, 2013). As earlier discussed, sexual transmission of HIV is relatively inefficient but conditions that exacerbate the infectiousness, such as STIs or pregnancy, can be existent. It is intuitively obvious that condoms create a barrier between sexual partners. If the virus cannot breach the epithelium in the vaginal or anal cavities then transmission cannot occur. It is a solution that is available globally and for little expense.

There are a number of different types of condoms available and more are being developed every year. For HIV epidemics both the male and female condoms are advocated. CSW outreach centres generally provide condoms for free and sex workers are able to either collect them personally or arrange for peers to collect a supply that is then distributed. Additionally, most government HIV/AIDS programming attempts to ensure that condom distribution vending machines are available at locations such as bars, karaoke clubs and brothels where sexual activity is likely to be performed or initiated. While these are not free they are generally low cost and ensure the sustainability of ongoing condom distribution.

Additionally, along with condoms, some outreach services provide lubricants, which aid in sexual intercourse and provide an additional barrier for transmission. During sexual activity inflammation and tearing of the vaginal or anal wall allows the virus to take advantage of these breaches in the epithelium and gain entry to the host. Generally, this is more likely to occur in the vaginal or anal cavity during dry penetration. Equally, researchers have been working on developing microbicides that will hopefully serve as lubricants and actively destroy viable virus pathogens. In the CAPRISA 004 microbicide trial undertaken in South Africa there was a reported overall efficacy of 39 percent reduction in HIV transmission, which peaked at 50 percent after 12 months in individuals with good adherence (Karim et al. 2010). However, there are some issues concerning the microbicides. Microbicides require a

high adherence rate to be effective and current sub-optimal adherence remains a challenge for microbicide usage (Gray et al., 2016). While the future of microbicide use in HIV epidemics is promising there are significant challenges remaining before they move from the trial phase.

Globally, there are still issues surrounding the use of condoms. This is particularly so for women. Women are often unable to negotiate the use of condoms and as a result will undertake sexual activity without them. This is the case for FSWs who may find it difficult to negotiate the use of condoms with clients (especially those operating in the lower hierarchies such as street walkers), but this is also the situation for many married women or women in non-commercial relationships. Significantly, this is one of the drivers of MTCT. In these circumstances women, who may have one sexual partner, become infected by men who engage in sexual intercourse outside of the relationship particularly with key groups such as PWID, MSM or FSWs, or via other high-risk behaviours. Therefore, while it has been established that condoms remain an essential component of successful HIV/AIDS GBV prevention and treatment programs there are still challenges associated with ensuring their optimal usage.

### **China's current prevention and education programs**

While it is beyond the scope of this thesis to discuss every aspect of HIV/AIDS policy in China the major prevention and education programs for China's HIV/AIDS epidemics are considered. China's main policies for prevention efforts closely follow those of TasP. However, they have been running education programs and distributing condoms for many years and MMT and syringe programs since implementing pilot programs in 2004 (Yin et al., 2010). World Aids Day has been used as a platform for widespread HIV/AIDS education initiatives within China. Other HIV educational initiatives include the use of billboards and television (albeit mainly in urban areas and in Han Chinese and therefore generally inaccessible to the ethnic minorities speaking different dialects and the uneducated who comprise the majority of internal migrants). Therefore, while China is making some efforts to address the HIV epidemics within its borders there needs to be an escalation of those efforts and more programming to enable access to ethnic minorities and marginalised population groups.

As a part of the prevention campaigns the PRC also provides stigma reduction programs for PLWHA (Ying-Xia, Golin, Jin, Emrick & Ming-Qiang, 2014 ; Yu, 2012). The Confucian worldview and Chinese cultural practices have meant that historically there has been little sympathy for PLWHA. Another difficulty being faced by PLWHA is that of the existing *hukou* system. In the past PLWHA have been required to attend clinics in the area of their *hukou* registration. This has changed over the past couple of years and now there is provision for PLWHA to access ART and other HIV/AIDS related services. Unfortunately, there is little widespread knowledge of this and as a result many ART eligible PLWHA are not accessing services (Chen, personal communication, November 2013).

Currently within China the mainstay for HIV/AIDS prevention and care programming is the 'Four Frees and One Care' policy. This policy rests within broader HIV frameworks and future planning targets such as China's five year action plans (2001-2005, 2006-2010, 2011-2015) and the Regulations on AIDS Prevention and Treatment (2006) (Yu, 2012). It operates at the vanguard of China's commitment to ensure access to ART for all eligible HIV+ persons. The 'Four Frees and One Care Policy' states that free ART drugs will be given to all AIDS patients (both urban and rural) in financial difficulty; it will provide free voluntary counselling and testing (VCT) in areas of high prevalence; prevention of mother-to-child transmission (PMCT) and VCT will be provided for all pregnant women; AIDS orphans will be provided with free education; and care will be provided for all AIDS patients with financial difficulties (Zhang, Hsu, Yu, Wen, & Pan, 2006, p. 98).

However, the benefits of this program are not implemented consistently or effectively and the prohibitive associated costs due to multiple fees for extra testing (such as liver function tests), travel costs and loss of income when attending clinics make accessing this program impossible for some individuals (Yu, 2012). Additionally, those segments of the population engaged in illegal activities such as sex workers, PWID and MSM are reluctant to access government run medical facilities due to fear of arrest and incarceration. While some NGOs are involved in implementation of HIV/AIDS programs (such as rapid testing, condom distribution and syringe programs) at present all ART is administered at government run health clinics and hospitals.

## **NGO participation**

GBP often works hand in hand with NGOs and CBOs in the delivery of HIV/AIDS services. The situation for NGOs and CBOs within China is somewhat restrictive as all NGOs and CBOs are either fully government operated non-governmental organisations (GONGOs) or partially government run and funded (Yu, 2012). Wang et al. (2016) state:

Actual NGOs are organizations created at the grassroots level and tend to be small, lack capacity, and lack political and financial resources. GONGOs are government sponsored and tend to be large, with more professional staff, and a bureaucratic structure. (p. 418)

Thus, GONGOs are distinct from NGOs within China. While there are GONGOs who are involved in HIV/AIDS programming within Yunnan they do not have the favour and access to marginalised populations that NGOs and CBOs are able to negotiate (Wang et al., 2016). However, there is little independence in policy decisions and often NGOs are constrained by the PRC's desired outcomes rather than being able to respond to the fluid situation at grassroots levels (Wang, 2012). NGOs are also often constrained by donor expectations (Watkins, Swidler & Hannan, 2012).

In China NGOs are regulated by the PRC<sup>11</sup> and are sometimes beset by a climate of mistrust due to fears that the PRC will lose control and that NGOs may grow and challenge the state authority (Yu, 2012). Wang et al. (2016) states:

Before legally registering with the Ministry of Civil Affairs, an "NGO" must obtain sponsorship from a relevant government ministry or bureau, the leader of which will be personally responsible for any misconduct by the NGO. (p. 420)

As a result many of the HIV/AIDS organisations are comprised of GONGOs and both funding and policy decisions are managed by the PRC (Wang, 2012; Yu, 2012). The situation in China is slightly better for CBOs (generally run by larger NGOs) such as drop in centres, which provide a range of services (such as condoms, syringes, rapid testing and counselling) in an anonymous and non-threatening environment (Chen, personal communication, October 2013). Local governments will often collaborate with them and allow a certain amount of autonomy as they recognise that CBOs have linkages to communities and key populations that are otherwise not accessible (Chen, personal communication, November 2013; Yu, 2012).

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<sup>11</sup> This is done through the China state council order 250, September 1998 regulating the management and registration of social organisations (Wang, 2012).

Therefore, it does seem that the PRC has been making efforts to be more collaborative and outsource many of its services to PLWHA through NGOs and CBOs. It has recognised that given a certain amount of autonomy NGOs and CBOs are able to operate in areas that are difficult for governmental bodies. NGOs are still finding their place in China and there are many areas for improvement. Additionally, the number of permanent NGOs operating is insufficient for the situations they are encountering (Chen, personal communication, October 2013). According to Chen, who is a member of one of the few permanent HIV/AIDS NGOs operating in Yunnan, there were only five permanent HIV/AIDS NGOs operating and other limited term NGOs formed spontaneously as funding for projects became available (Chen, personal communication, November 2013; Wang et al., 2016).<sup>12</sup> While there were larger numbers of permanent NGOs operating as a part of joint programs with donor agencies (such as the AusAid/China joint HAARP program which concluded in 2013) considering that China has become a middle-income country and all major international HIV/AIDS donors have now withdrawn, there is now limited funding not only for the permanent HIV/AIDS NGOs but also for the short-term pop-up NGOs offering limited term programming. As a result the NGOs which operate on a permanent basis are not only short on funding but also short on members with an average of only 4 core or full-time members (Wang et al., 2016). Thus, in highlighting this shortfall in China's present HIV/AIDS operating environment this thesis adds essential information for the creation future initiatives.

## **Conclusion**

In considering the current GBP it becomes clear that the implementation of these practices are flexible and culturally adaptable. While this is necessary it does allow for inconsistencies in adoption and usage across different HIV epidemics. Countries pick and choose which (if any) GBPs are most suited to the epidemics within their borders. When there is a thorough and comprehensive understanding of the characteristics of a country's differing epidemics (know your epidemic, know your response) then it seems reasonable to assume that GBPs will be used in an optimal manner. Unfortunately this is not always the case and may result in ineffective or insufficient HIV/AIDS programming. There are a myriad of challenges facing state governments in addressing HIV epidemics both in attempting to meet the needs of PLWHA and protecting those who have not been infected. As discussed these challenges

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<sup>12</sup> As a primary informant, active and well versed concerning the current information for the situation for NGOs on the ground in China, Chen is considered a reliable source of information. Chen's interview is also supported by discussion contained in Wang et al. (2016).

become more complicated and perhaps even appear insurmountable when matters of cultural norms or biases and stigma are added. Practices that may appear optimal may be ineffective due to the reluctance of communities to go against accepted cultural norms or attract stigma by openly acknowledging their participation in behaviour perceived unacceptable by the general population.

While the PRC appears to be increasingly invested in addressing the HIV/AIDS situation funding constraints, lack of scale up of existing efforts and a reluctance to include ‘outsiders’ such as NGOs, INGOs and the UN in what is considered a state problem hamper efforts to move towards a reduction of new infections. The success of GBP initiatives often relies on NGO and CBO participation both for the dissemination of information but also for the provision of HIV services. China’s preferred method for service delivery is through official governmental hospitals and clinics. The implications for this include insufficient attendance by key populations and possible under-reporting of HIV/AIDS cases due to the fact that most of the almost 2000 sentinel surveillance sites are located in government run establishments.

Finally, it is important to realise that GBP changes over time. What was appropriate at the beginning of the pandemic may no longer be appropriate now. As the understandings of the underlying causes and behavioural risks that intensify HIV infectiousness increases and changes so too do the GBPs. As an effective vaccine becomes more probable the mutability of GBP keeps pace. What does not change is the fact that individuals have HIV/AIDS. They are not abstract entities but real people with real needs. GBP that addresses the needs of PLWHA rather than concentrating on the disease is always appropriate. Understanding the multifarious nature of the problem provides a foundation for the acceptance of human security frameworks as advantageous in HIV/AIDS epidemics.

## **Chapter Four: History of HIV/AIDS in China and Yunnan**

*The more you try to cover things up, the more exposed they will be.*

欲盖弥彰

### **Introduction**

This chapter gives an overview of the history of HIV/AIDS in China and the disease's epidemiology and major transmission patterns in Yunnan. Further, issues such as the impacts of cultural diversity on HIV transmission; the role of sexual transmission in the expansion of the disease into China's general population; and the diffusion of HIV/AIDS across international borders are considered. However, in order to fully understand the implications of HIV/AIDS and its concomitant encumbrances in key populations and those they interact with, it is necessary to examine each cohort in some detail. As such, they are expressly considered in the next chapter.

Additionally, this chapter will only provide a general indication of HIV as a non-traditional security threat in China as the topic will be discussed in depth in a subsequent chapter. However, it will briefly consider the disease's economic and societal burden and the efficacy of existing prevention and educational outreach efforts in the light of the present threat to state and human security. A further focus of this chapter is HIV/AIDS in Yunnan's ethnic minorities and whether cultural diversity and marginalisation, stigmatisation and mobility within these cultural groups augment HIV transmission.

### **History of HIV/AIDS in China**

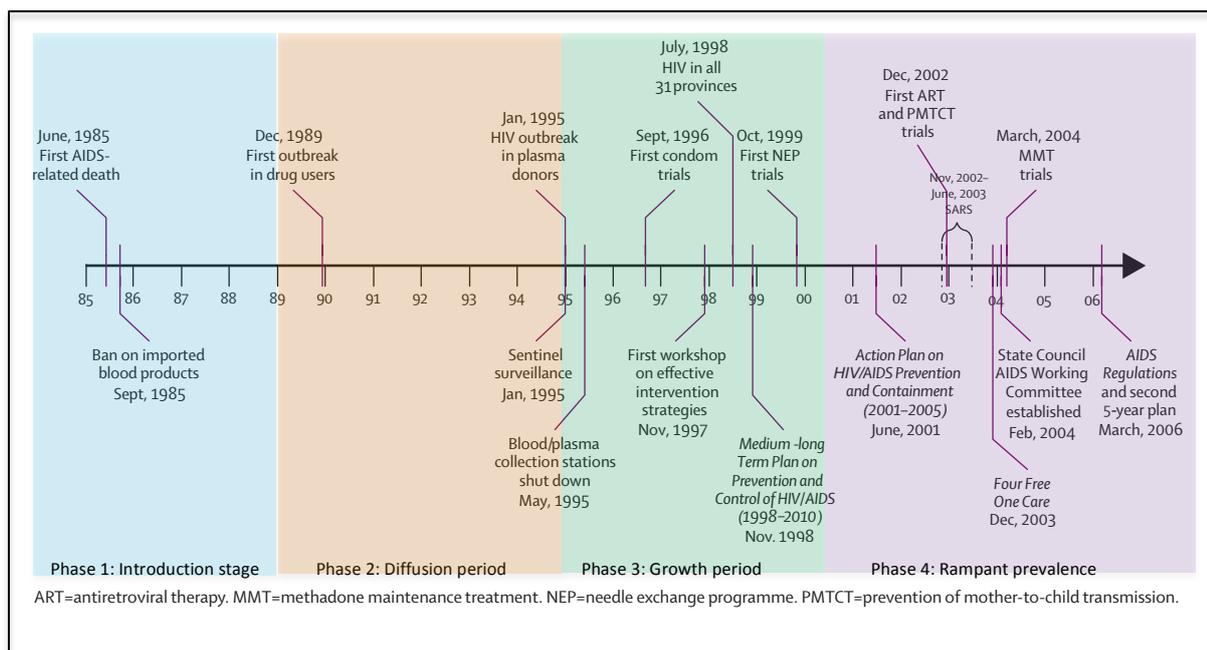
China has been dealing with a HIV/AIDS epidemic since 1989 and currently the disease has been identified in all thirty-one provinces. However, the first actual case of AIDS was discovered in June 1985 in an Argentinian tourist who was reported to have died of severe lung infection and respiratory failure (Settle, 2003; Wu et al., 2007). The subsequent section provides a brief synopsis of what can be putatively considered the four phases<sup>13</sup> of the HIV epidemic in China (Nutbeam, Padmadas, Maslovskaya, & Wu, 2015; Sheng & Cao, 2008).

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<sup>13</sup> Scholars such as Huang (2006) and Zhang and Ma (2002) suggest three stages (as they combine significant events into an overarching final time period, in doing so they detract somewhat from the significance of the PRC's actions of the time).

In understanding the different phases of the disease in China it is possible to gain an overview of the expansion of the epidemic. The following timeline (see page 112, Figure 10) provides a suitable summary of the actions and reactions of the PRC throughout China's HIV epidemic. The PRC's initial contextualisation of the appearance of HIV within China as something from an external source, and the resulting lack of action, contributed significantly to the emergence of the epidemic within China. This was characterised by a period of more than ten years where the PRC fundamentally ignored the emerging epidemic within its borders resulting in its diffusion throughout the population. Between 1989 and 1995 the PRC refused to publicly acknowledge that China even had a HIV/AIDS epidemic (Nutbeam et al., 2015). This resulted in a continued growth period and eventually to the rampant spread of HIV throughout all provinces of China: particularly in key populations. The four phases of the epidemic in China are considered to be the introduction phase; the diffusion phase, the growth period; and the rampant prevalence of the disease (Hayes, 2006; Xia, 2004).

**Figure 10: Important events in China's HIV/AIDS epidemic**



Source: Compiled by Author, adapted from (Wu et al., 2007).

### **Introduction stage or the 'Western' disease: 1985-1988**

The movement of HIV across differing populations has been clearly identified in China. Apart from foreign nationals, the first Chinese citizens to be infected were those returning to China from abroad where they contracted the disease; the second group were haemophiliac

patients who contracted the disease through imported contaminated blood (Cui, Liao & Wu, 2009). It is important to understand that in the initial stages of the disease appearing in China it was considered a Western disease. This categorisation meant that apart from restricting the flow of foreign blood products, testing returning nationals and attempting to crack down on sex workers (who had sex with foreigners), China did very little to halt the spread of HIV in the early stages. Moreover, it is thought that these initial infections had very little impact on the later spread of HIV in China (Cui, Liao & Wu, 2009). As such, it is debatable whether China's focus on prevention in these discrete areas of outbreak contributed positively to a much-needed overall plan for educating the public and potentially halting the epidemic.

Indeed, in contextualising HIV as a Western disease it was understood that immoral behaviour was the primary driver of the disease and that by default Chinese people could not get it due to Confucian morality and racial superiority resulting in improved immune systems (Dikotter, 2000, p. 1083). Widespread beliefs held that if Chinese simply stayed away from foreigners they would not contract HIV. Media reports of the time suggested that the West, and America in particular, was the source of all immorality and disease. For example, *The Peking Daily* warned:

There are social ills that plague the Western world, for instance, drugs, alcoholism, robbery, murder, suicide, divorce, prostitution, homosexuality, venereal disease, AIDS, etc. All these things come from the ideology of capitalism (Cited in Browning, 1987)

The inference appears to be that Chinese socialism and the prevailing norms of Confucianism would protect people from becoming infected with HIV. In 1987, *The Toronto Star* reported on a post in a Chinese newspaper, which clearly stated that AIDS was unlikely to spread in China due to their moral stance against homosexuality and casual sex (*Beijing Review* cited in *The Toronto Star*, 1987).

Indeed, the PRC went so far as to implement legislation, banning foreigners from sexual interactions with Chinese nationals. In 1987, *The San Francisco Chronicle* reported:

Beijing is adopting a series of measures "strictly forbidding illegal sexual contacts with foreigners" to prevent the spread of the deadly acquired immune deficiency syndrome. "Prostitution, whoring following an introduction, abetting prostitution and whoring are strictly forbidden and offenders face a maximum 15 days detention, a warning, re-education and a maximum fine of 5,000 Yuan," says Article 30 of the regulations. (1987)

However, the numbers of sex workers continued to increase. Previous Maoist crackdowns and re-education and rehabilitation practices including closing the brothels and allegedly stamping out STIs, were no match for emerging markets, changing sexual practices and cross-border trafficking (Hyde, 2000). Incidences of STIs rose at an exponential rate and because sex workers sell sex, and HIV is sexually transmitted, they have been "...perceived as an epidemiological threat the world over" (Hyde, 2000, p. 115). Indeed, it seems clear that in the early stages of China's epidemic sex workers bore the brunt of censure along with all things Western.

### **Diffusion period of drug users disease: 1989-1993**

The beginning of 1989 revealed that China still had a limited understanding of HIV. Two films dealing with the issue of HIV, titled *AIDS* and promoted with the characters for 'Super Cancer' and 'AIDS Patients' advertised as 'Pornographic Pestilence' (about three students who had sex with a foreign teacher), were still publicising it as a Western disease contracted through immoral behaviour (Settle, 2003). However, this was soon to change. The first official outbreak of HIV in Chinese nationals arose in 1989 among 146 infected heroin users in Ruili. In China the epidemic first manifested in rural areas and spread to urban centres (Cui, Liao and Wu, 2009). It is believed that this group, which lies along a main drug trafficking route from the Golden Triangle, is likely to have been the source for all later transmission of HIV in China (Knutsen, 2012, Settle, 2003). By 1994, having been transmitted to the spouses, sexual partners and children of drug users, the disease was being transmitted by all modes and in all provinces of China (Knutsen, 2012). No longer was the disease one that was exclusive to Westerners, sex workers or drug users.

As a result of this HIV expansion 'The Law of Infectious Diseases Prevention and Control' was passed in 1989, with the methods of implementation passed two years later in 1991. AIDS was declared to be a notifiable disease; AIDS patients required quarantine and cases needed reporting to local health authorities within six hours for urban cases and twelve hours for rural cases (Wu, Rou, & Cui, 2004). However, these requirements were unfeasible and inadequate to address the problem, and as a result HIV continued to spread throughout China.

This phase also saw the beginnings of an outbreak in FPDs and recipients (He & Detels, 2005). From the late 1980s to the early 1990s thousands of blood and plasma collection

points were in operation throughout the country. This was particularly the case in the poorer, least developed regions of central China. They were extremely popular as donors were paid 50 yuan for a unit of plasma and 200 yuan for whole blood (Settle, 2003). A lack of screening for HIV meant that approximately 69,000 FPDs and recipients were infected due to contaminated blood and plasma; resulting in a 10 – 20 percent, and in some areas 60 percent, HIV+ prevalence rate in these cohorts (Cui, Liau, & Wu, 2009). For the first time, HIV began to spread throughout significant cohorts of the general population.

It was during this phase, or the diffusion period, that HIV continued expanding into new populations within China. The PRC's lack of attention to the continuing spread meant that there were no existing barriers for expansion or indeed education campaigns to help people understand that HIV was not simply a disease for undesirable elements of the population but rather could be contracted by anyone. Indeed, the outbreak in FPD was the first time that the general population realised that HIV did not discriminate based on moral behaviour. Throughout this diffusion period the PRC was still loath to admit that a HIV epidemic was spreading throughout China. Until the publicising of the outbreak in FPDs the PRC was still reporting on HIV in a limited manner and suggesting that the disease was only manifesting in isolated incidences.

### **Growth period or anyone's disease: 1994-2000**

It was during this growth period that China first acknowledged the epidemic had taken root in the country and that it was no longer being driven by foreigners. Indeed for the first time they acknowledged that it was possible for anyone to contract the disease and that it was spreading quickly. In late 1994 the epidemic began its growth period, spreading out from Yunnan. By the mid-1990s, HIV had spread throughout China with all modes of transmission being reported and by 1998 HIV was reported in all provinces of China (Sheng & Cao, 2008). As a result the government began to take measures to address the burgeoning epidemic. In 1995 forty-two sentinel surveillance sites targeting key populations were introduced in twenty three provinces experiencing highest rates of HIV/AIDS (He & Detels, 2005). These sites sought to identify areas and populations that were experiencing outbreaks in an effort to come to a more comprehensive understanding about how expansive the epidemic had become.

Also in 1995, China first officially announced the epidemic in FPDs (Wu et al., 2007). By 1996 China began implementing programs along the international border areas of Yunnan designed to halt the spread of infectious disease and to get the HIV epidemic under control (Settle, 2003). In 1997 Chinese and foreign leaders in HIV/AIDS control met for a workshop which proved to be a turning point in China's efforts and many of the recommendations from that workshop were undertaken (Wu et al., 2004). Rather than addressing the HIV/AIDS epidemic from a strictly public health policy they began to acknowledge the need to consider the problem from a human perspective.

Regardless of the fact that sex work was illegal in China in 1997 the CDC implemented programs promoting condom usage to help limit HIV and other STIs among CSWs (Cui et al., 2009). Even so, figures for 1998 reveal that incidences of STIs had risen alongside numbers of people having multiple sexual partners. He and Detels (2005) state that between 1990 and 1998 the reported incidence of syphilis increase twenty fold while gonorrhoea increased three fold. However, trials undertaken proved that the interventions were successful and the CDC ramped up initiatives (Cui et al., 2009). This proved to be the case for interventions targeting PWID and in 1999 NSPs were initiated in Yunnan and Guangxi Zhuang Autonomous region (Cui et al., 2009). However, the previous lack of response by the PRC in dealing with the epidemic had taken its toll.

The HIV epidemic had taken hold in these marginalised populations and had begun to move at a rapid rate into other populations. Even though programming had begun there was still a notable lack of effective HIV education and there was still not enough being done to prevent transmission or treat those who had already been identified as HIV+. Sentinel surveillance was still in its infancy and inadequate coverage resulted in insufficient data to truly grasp the extent of the growth of HIV in China. Moreover, there was still limited understanding concerning the percentages of infection in the different key populations. The response of the PRC to the growing epidemic was lagging behind that required to make any effective advances in halting the spread of the disease.

### **Rampant prevalence or everyone's disease: 2001 – present day**

Phase four is marked by the implementation of the 'China HIV/AIDS Containment, Prevention and Control Action Plan' covering the period 2001-2005 (He & Detels, 2005) and

continues to the present day. This policy paper highlighted effective strategies for dealing with HIV and included condom promotion, needle/syringe exchange and methadone maintenance for PWID (Wu et al., 2004). This phase marks the PRC's acknowledgement that the HIV/AIDS epidemic in China is everyone's problem. In 2002 the National Centre for AIDS implemented pilot methadone replacement and needle/syringe exchange programs in areas with high proportions of PWID (He & Detels, 2005). Following this in late December/January 2003 China began trials for ART and prevention of MTCT (Wu et al., 2007). However, things did not really improve for PLWHA until issues surrounding the SARS epidemic of 2003 brought China's health policies to the forefront.

The SARS epidemic not only focused world attention on China, it also forced the Chinese government to realise that HIV/AIDS could no longer be downplayed and that serious attention needed to be paid to the epidemic. The new administration led by Hu Jintao, Premier Wen Jiabao and Vice Premier Wu Yi accelerated the commitment to evidence-based HIV policies (Wu et al., 2007). Attitudes having changed, late in 2003 Premier Wen Jiabao became the first Premier of China to shake hands with AIDS patients in a bid to mitigate stigmatisation ("Handshake highlights fight against AIDS", 2003). That year also saw the implementation of China's 'Four Frees and One Care' policy,<sup>14</sup> which is still being enacted.

China has made some important advances in its HIV/AIDS programming since the early days. They have actively initiated programs that follow GBPs and created new programs allowing for a scale up of services (Wu et al., 2007). In addition to this the Chinese government have recognised that economic considerations have to make room for social wellbeing and public health (Wu et al., 2007). Within key populations in Yunnan, and some other parts of China, the delayed reaction by the PRC in addressing the HIV/AIDS epidemic has resulted in a rampant prevalence resulting in high infection rate percentages in these populations. Moreover, it remains to be seen whether China will continue to make ground in halting the epidemic or whether complacency and budget constraints adversely affect the progress they have already made. Certainly in Yunnan, HIV/AIDS remains a concern and when measured against GBPs the initiatives presently in place are not adequate for the current epidemic burden.

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<sup>14</sup> This has been discussed in depth in the previous chapter.

The brief overview of the history of the HIV/AIDS epidemic in China reveals the PRC neglected to undertake the necessary steps to halt the spread of the disease in its early stages. There have been ongoing ramifications for that neglect. Indeed, a prevailing arrogance as to the morality of the Chinese population as compared to the perceived lack of morality found in ‘others’ has also negatively contributed to the diffusion and rampant prevalence of HIV in key populations; and the relatively new, predominant spread of HIV through sexual contact. Indeed, the PRC has shown itself to still be reluctant to disseminate data; issues of stigma and entrenched ideas that the disease is Western or exclusive to people of low moral status; and a continuing lack of adequate treatment and prevention programs mean that HIV continues to spread in China. This chapter now considers some of the limitations in data and discusses issues of stigma before considering current HIV initiatives in China.

### **Limitations of existing data**

Gaining a comprehensive understanding of the situation for PLWHA in China can be difficult due to limitations in available data. As mentioned previously, in order to undertake GBP it is important to have a thorough understanding of the epidemic in order to create education, treatment and prevention programs that will be efficient in the area of application. A program that works well in one area may not be effective in another. China’s main data gathering source for estimating numbers of PLWHA is sentinel surveillance in conjunction with a web-based case reporting system.

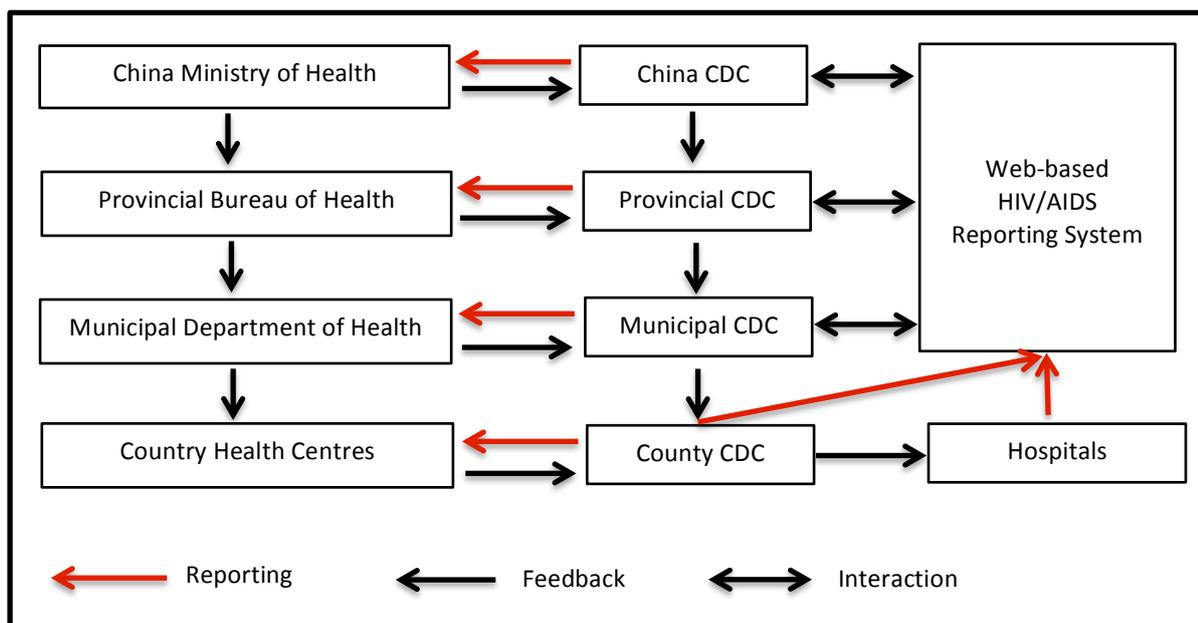
There are currently over 1888 sentinel surveillance<sup>15</sup> sites in China, which in theory should give an adequate overview of the epidemic. However, there are significant shortfalls in the program. Moreover, surveillance is limited to those who access public clinics and does not account for those accessing private clinics, the many people who are reluctant to be tested for HIV due to issues of stigma or the many undocumented migrants that do not access health services. In addition to these factors, there is also a tendency for local authorities to underestimate figures and reluctance by the PRC to disseminate the data that it does obtain. Overall, this means that while it is evident that China is dealing with a burgeoning HIV/AIDS epidemic exact figures cannot be counted on to provide a complete understanding of the situation.

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<sup>15</sup> This type of surveillance annually measures the HIV seroprevalence of selected at-risk populations. Data is sourced from selected sites/locations that are repeated in subsequent rounds. Some of the sampling may include sequential sampling among facility-based populations, convenience sampling in community settings and cluster sampling or respondent-driven sampling (Loo et al., 2012).

Sentinel surveillance in China is not as effective as it might be for several reasons. Firstly, China’s decentralised and fragmented authoritarian political hierarchy means that there is a lack of transparency, accountability, information sharing and cooperation (Zhang, Chow, Zhang, Jing & Wilson, 2012). Currently, all HIV/AIDS surveillance is managed through a central office in China’s Centre for Disease Control (CDC) and administered independently at provincial, municipal and county levels (see page 119, Figure 11).

**Figure 11: Schematic diagram of flow of information for HIV surveillance in China**



Sourced from: (Zhang, Pui Fung Chow, Zhang, Jing & Wilson, 2012)

This vertical administration of the CDC has implications for research, and the creation and management of HIV programs. Furthermore, it leads to backlogs of unanalysed HIV data, large data gaps and lack of quality control (Loo et al., 2012; Mao et al., 2010; Zhang, Chow, Zhang, Jing & Wilson, 2012). Significantly, there are few monitoring systems in place to ensure the accuracy of published or reported information (Zhang, Chow, Zhang, Jing & Wilson, 2012).

One of the more concerning outcomes of this hierarchy is results-driven policy implementation. Zhang, Chow, Zhang, Jing and Wilson, (2012) suggest:

The absence of genuine engagement of civil society groups, including the media and the scientific communities, and the expectations and pressures from higher-level authorities, often results in a results-oriented policy implementation,

such that local officials tend to manipulate nonscientific and arbitrary results to satisfy their superiors perfunctorily. (p. 167)

Secondly, there is a shortage of trained personnel and lack of technological capacity and infrastructure, particularly in rural areas (Lin et al., 2012; Zhao, Poundstone, Montaner & Wu, 2012). Lastly, there are no requirements for public accountability and all decisions about the dissemination of data and openness concerning the HIV situation is at the sole decision of the central China CDC (under the supervision and approval of the China Ministry of Health). This effectively means that the PRC can withhold information it deems too sensitive or alarming and propagate information that places their efforts in the best light.

While there are obvious challenges in the systems surrounding sentinel surveillance they are not the only limiting factors in obtaining correct HIV/AIDS data. Mobility is a complicating factor in many of China's most at-risk for HIV/AIDS populations. In addition to the groups already mentioned (FSW, PWID and floating migrants) there is a high mobility factor for populations of MSM. As yet there appear to be few consistent approaches to sampling highly mobile and hidden people groups that do not routinely access health care facilities (Loo et al., 2012). A research study by Loo et al. (2012) on HIV sentinel surveillance within mobile populations in the Asia Pacific region (including China) states:

...there are insufficient resources to apply rigorous approaches for representative, replicable samples in most countries. (p. 4)

Essentially, it is difficult to know the situation in these groups with any real accuracy, as it is impossible to apply the same methods as used for non-mobile people. This is exacerbated in migrant populations due to China's *hukou* system as many of the floating migrants are unable, or unwilling, to access health services due to their undocumented status (Tuñón, 2006).<sup>16</sup>

Moreover, there are also difficulties in obtaining surveillance figures for PLWHA due to a large number of people refusing to be tested. In PWID, FSW, MSM and the floating population people may refuse to be tested for HIV due to the threat of police crackdowns and enforced incarceration if they are identified as belonging to a key population (Pirkle et al., 2007). Additionally, these population cohorts may feel convicted by the cultural bias towards Chinese Confucian philosophy and its stigmatisation of PWID, MSM and sex workers as

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<sup>16</sup> Field research revealed (see next chapter) that for populations identified as HIV+ this is no longer the case. They are able to access services in any province. However, the caveat is that they must first be officially identified as being HIV+.

morally impure members of the community (Ding, Li, Ji, 2011; Qian et al., 2006; Yang & Kleinman, 2008). Stigmatisation is of particular concern when attempting to form effective policy or collect useable data.

### **Impacts of stigma in HIV settings in China**

In China the stigmatisation of PLWHA does not only affect the individuals themselves but becomes a shame endured by the entire family (Hong et al., 2008; Zhou, 2007). Unfortunately, in China there are still misconceptions about how HIV/AIDS is transmitted and this contributes to the discrimination and prejudice against PLWHA still rampant within the general community (Qian et al., 2007; Yang & Kleinman, 2008; Zhang, Chow, Zhang, Jing, & Wilson, 2012). As a result PLWHA become marginalised and more difficult to interact with which has significant implications for HIV/AIDS programing and the spread of HIV in general. Without effective surveillance of key populations there can be little improvement in services and understanding of the epidemiology, or actual HIV/AIDS prevalence, of highly marginalised and mobile populations such as MSM, FSW, PWID and floating migrants (Zhang et al., 2012).

In addition to discouraging PLWHA from accessing services, or often even ascertaining their HIV status, stigma disinclines them from disclosing their HIV+ status to sexual partners or family members (Chen et al., 2007; Sullivan et al., 2010). This is due not only to their own feelings but also because they are concerned that their family will suffer the same discrimination and stigma that they fear. This is particularly the case when they have contacted HIV due to practices considered immoral, such as drug use, MSM and sex work (Li et al., 2008). Some literature refers to this as a double stigma, that of HIV and the ‘immoral’ behaviour, and it impacts both the individual and their family (Li et al., 2008).

This is particularly so in Chinese society due to the cultural emphasis placed on morals and the family unit. As hitherto mentioned, Chinese Confucianism has played a large role in the discrimination of PLWHA, particularly in those groups that might be considered to be morally inferior. Drug use, along with gambling and prostitution, is recorded in official Chinese documents as an ‘ugly social phenomenon’ [*Chou’e de shehui xianxiang*] (Tang & Hao, 2007). Interestingly, although these practices are considered to be morally reprehensible they are also considered to be unofficial requirements within China’s governmentality that

help to sustain legitimacy and traditional male performance (Uretsky, 2015). This type of business entertaining (*yingchou*), including the solicitation of sex, forms a part of all successful political and economic negotiations (Uretsky, 2015). Even so, it is considered to be contrary to the cultural and moral values of Chinese society as espoused by Confucian philosophy (Lin et al., 2010). Xi Jinping's anti-corruption campaign and the need to appear morally upright and uphold party values has had the effect of creating juxtaposing discourses; the behaviours are still unofficially required but the evidence of them must be covered up resulting in serious risks to the men involved in governing China (Uretsky, 2015).

In Chinese culture treating people who are considered to be of low moral status in a disrespectful or discriminatory manner is an acceptable practice (Li et al., 2006). Zhou (2007) suggests:

Discrimination toward PLWHA is not solely about HIV/AIDS as a disease, but always intersects with existing social prejudices (e.g., homophobia, sexism, racism, and xenophobia) that may have contributed to the social constructions of HIV/AIDS in a society. (p. 815)

Indeed this is corroborated by societal attitudes towards PLWHA who contracted HIV through blood plasma donation and iatrogenic blood transfusions. These groups of PLWHA were considered innocent and so suffered far less stigmatisation than those who were considered immoral. However, it is interesting to note that this group of PLWHA were themselves discriminatory and stigmatised PLWHA who contracted the infection through other means (Zhou, 2007).

As mentioned, this stigmatisation results in PLWHA being very cautious about disclosing their HIV+ status. However, in a Chinese context this is not always an option as there have been numerous incidences when medical professionals have disclosed patient's status without their permission (Li et al., 2008). In addition to creating problems within the family this disclosure has led to loss of employment, isolation by other community members and withdrawal of the PLWHA from the community through feelings of shame (Burki, 2011; Yang & Kleinman, 2008; Zhou, 2007; Zhou, 2009). In China such unconsenting disclosure has been made illegal and as such it does not occur with the same frequency as in the past, but it does still occur (Burki, 2011; Zhou, 2007).

This is a particular concern for HIV+ pregnant women. In China routine HIV testing is available for all pregnant women; and voluntary counselling, information on treatment options for themselves, and information concerning vertical transmission of the virus to their babies is available for those women who test HIV+. In general women are presented with two options – terminating the pregnancy or receiving free clinical interventions to reduce the risk of spreading the disease to the baby (Liang et al., 2013). Unfortunately, there is some possibility that ongoing HIV/AIDS stigma among medical practitioners might induce them to allow their personal beliefs to influence their advice and willingness to care for patients (Cai, Moji et al., 2007; Gill & Okie, 2007; Liang et al., 2013; WHO, 2010). Further, women who learn their HIV status during pregnancy are more likely to undergo an abortion due to fear and stigma (Liang et al., 2013). Overall they found that the rates of abortion for HIV+ women were higher than those of the general population.

Upon disclosure of their status PLWHA are often treated as highly contagious and required to be separate in their living arrangements within a household, including having separate eating utensils, bedding, and laundry arrangements (Qian et al., 2007; Zhou, 2007). They are cautious about interacting with people and carry internalised shame and profound feelings of hurt (Zhou, 2013). Moreover, they become convinced that they deserve to have contracted this disease due to their bad or immoral behaviour and therefore deserve to be treated discriminatorily (Zhou, 2007).

In China, this moralising discourse concerning HIV/AIDS has been exacerbated by media portrayals of PLWHA (Hong, et al., 2008; Hood, 2005). Although this situation has changed somewhat over time, the portrayal of PLWHA as being unsafe and immoral has increased attitudes of stigma and done little to advance HIV education and prevention efforts within the general community. Moreover, the public stigmatisation of PLWHA has led to misconceptions regarding methods of contracting HIV with many people believing they are safe and that only those participating in unsafe behaviour are susceptible (Burki, 2011; Hong et al., 2008).

While the PRC has implemented policy to stop the stigmatisation of PLWHA there are still significant challenges to be overcome. Community attitudes concerning the moral standing of key populations are entrenched within the cultural consciousness and fear and lack of education on HIV/AIDS still contribute to stigmatising behaviours. In general, PLWHA are

still suffering stigmatisation and marginalisation, which is impacting on their willingness to be forthcoming about their HIV+ status or to be tested for fear of a positive result. The consequence is that many individuals are not being identified as PLWHA; they are also not receiving the care and education that they need to manage their infections. Therefore, the lack of human security and failure to identify and alleviate the wants and fears inherent in situations of stigma are having detrimental effects on current efforts to confront HIV/AIDS epidemics.

For PLWHA, issues of stigma and discrimination in combination with cultural sensitivities, marginalisation and high mobility (both across international and provincial borders) create an environment where receiving adequate and appropriate healthcare becomes problematic. This is important because not only does it directly impact upon the human security of the individual it also has far reaching security implications for China. This is a non-traditional security threat that not only impacts PLWHA but also has the potential to weaken China's military forces (through high rates of infection); generate a significant financial burden for the state due to increasing medical expenses; and finally, result in a greater divide between the educated and un-educated as a result of children being unable to attend school. Lastly, without effectively addressing the needs of PLWHA the epidemic will continue to spread.

Additionally, the loss of income resulting in decreased gross domestic product (GDP) due to unemployment, breakdown in societal structures and financial burden of increasing numbers of PLWHA weaken the security and financial health of the nation-state. There are challenges inherent in impacting populations that are marginalised and essentially closed off from the general population. In attempting to understand how some of those ongoing challenges impact current HIV/AIDS prevention programs, this chapter will now consider the successes and shortfalls in current treatment and prevention efforts being implemented in China.

### **Shortfalls and challenges of current treatment and prevention efforts**

Although China has increased efforts to deal with HIV in the last ten years there are still significant gaps in population coverage and resources. As mentioned, China relies on HIV sentinel surveillance sites, concentrating mainly on key populations. To reiterate, these were implemented in 1986 and by 2009 there were 1029 sites throughout the country with the greatest number in Yunnan (Pirkle et al., 2007; Qin et al., 2005). This increased to 1888 sites

in 2010 (Lin et al., 2012). Unfortunately (as mentioned on page 112), China was slow to deal with the emerging HIV epidemic when it was first reported in PWID in Ruili in Yunnan, and it was not until after an outbreak among plasma donors in Henan province, and the SARS outbreak, that the PRC began serious efforts to deal with the growing epidemic. The SARS outbreak not only highlighted deficiencies in China's public healthcare system it also highlighted the need for concerted political will and improved resources for dealing with health emergencies in China (Liu & Kaufman, 2006).

Sustained political will is particularly important in China's decentralised fiscal health care system and must encompass both central and local government political commitment (Liu & Kaufman, 2006). In 2013 China became a middle-income country<sup>17</sup> according to world classifications and thus became ineligible to continue to receive funding from INGOs such as AusAID and the Global Fund to Fight AIDS, Tuberculosis and Malaria (the Global Fund). The Global Fund has a threshold of \$2000 gross national income per capita after which funding is substantially reduced in order to encourage governments to take responsibility for the health and wellbeing of their populations (Stuart, Lief, Donald, Wilson, & Wilson, 2015). In June 2014 the Global Fund concluded its funding support for HIV/AIDS programs within China resulting in China establishing the "Fund for Social Organizations Participating in HIV/AIDS Prevention and Control" (Wang et al., 2016). As such, China currently bears 80 percent of the cost of its HIV/AIDS programs and seems to be genuinely making every effort to address the expansion of HIV (Zhao, Poundstone, Montaner & Wu, 2012). As mentioned in the previous chapter, in addition to the 'Four Frees and One Care' program, the PRC is also actively involved in providing methadone maintenance programs and harm reduction programs including NEP for PWID. Furthermore, they have also provided HIV education, counselling and testing, and condom and lubricant distribution amongst MSM. However, there are still ongoing shortfalls in the policies that the PRC has implemented and effective coverage requires them to exceed current parameters to meet the challenges identified earlier in this chapter.

Therefore, while there have been various efforts to improve the current HIV health sector, there is an ongoing deficiency both in political will and resources in HIV/AIDS healthcare policies. Hood (2012) suggests, "Many of China's HIV positive, and those who lobby for

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<sup>17</sup> A middle-income country is a nation with a per capita income (as of 2012) of between \$1,036 and \$12,615. <http://www.worldbank.org/en/country/mic/overview>

them, negotiate and navigate the condition of being left behind economically, socially and medically” (p. 132). As such intervention programs must be targeted at the local situation and populations of concern (Li et al., 2010). Chu and Liu (2011) state:

The classic treatment of AIDS is highly active antiretroviral therapy, but most people living with HIV/AIDS—especially those in developing countries— have little or no access to the treatment because of the high cost of the therapy.(p. 67)

In China, as a developing country, low annual incomes and limited disposable income after expenses (see page 126, Figure 12) mean that in the HIV scenario user fees and out-of-pocket expenses are quite often prohibitive. This is due to the fact that the free ART package does not cover formal fees, diagnostics (such as regular liver functions tests for those on ART), or informal fees such as travel expenses and accommodation when travelling to and from clinics (Li, He, Wang & Williams, 2009; Yu, Souteyrand, Banda, Kaufman, & Perriens, 2008; Zhou et al., 2011). For some PLWHA the cost of annual ART medical fees is almost equivalent to annual income (Moon et al, 2008). With a daily disposable income (after expenditures) of 24.31 yuan for urban dwellers and 5.77 yuan for rural dwellers there is little remaining to cover the cost of the additional tests, travel and accommodation.

**Figure 12: Average Chinese Per Capita Income for 2014**

	<b>URBAN</b>	<b>RURAL</b>
<b>Per Capita Disposable Income (CNY/yuan)</b>	<b>28,843.85</b>	<b>10,488.88</b>
Average Monthly income	2403.65	874.07
Average Daily Income	79.02	28.73
USD per day equivalent (exchange rate \$1 USD= 6.5140 CNY on 11/05/2016)	\$12.13	\$4.41
<b>Per Capita Annual Expenditures (yuan)</b>	<b>19,968.08</b>	<b>8,382.57</b>
<b>Total Annual Income remaining after Expenditure (yuan)</b>	<b>8875.77</b>	<b>2106.31</b>
Average Monthly remaining	739.64	175.52
Average Daily remaining	24.31	5.77
USD per day equivalent	\$3.73	\$0.88

Income/expenditure figures (in pink and green)-National Bureau of Statistics China: Retrieved 11/05/2016 at <http://data.stats.gov.cn/english/easyquery.htm?cn=C01>

This is particularly relevant considering the limited public health infrastructure in rural areas (necessitating travel to urban centres for medical assistance at government run clinics) where more than 80 percent of all PLWHA are residents (Gill, 2006; Yip 2006). Additionally, compared to other households, PLWHA households have been found to have significantly lower incomes (Zhang et al., 2012). A further complication for PLWHA lies in China's "...massive restructuring of its social systems into profit-making institutions and its subsequent attempt at health system reform (*yigai*) have made healthcare a luxury many can no longer afford" (Hood, 2011, p. 10). Therefore, in reflecting upon the narrow window of opportunity to mitigate the spread of HIV in China strategies need to be implemented to ensure that HIV health care is accessible to everyone (Yip, 2006). However, presently, and increasingly, this is not the case even with the 'Four Frees and One Care' policy in place. Naiqun (2006) suggests that the spread of HIV/AIDS in China "... implies specific political-economic inequalities and socio-cultural institutions" (p. 194). Hyde (2007) suggests, "...diseases map onto certain places and people more readily than onto others and...HIV/AIDS becomes embedded in political and economic relations, embodied practices, and cultural imaginations" (p. 2). Within China HIV cases have been reported in every province but the vast majority (over 80 percent) of the HIV epidemic is located in 6 prefectures; with Yunnan reporting the highest rates of infection (UNAIDS 2011; Jia et al., 2010). In addition, many of the PLWHA in these provinces reside in rural areas and in the specific population groups noted in this thesis.

While this thesis is concerned with specific cohorts within China's marginalised and mobile populations it is essential to understand that the cohorts being studied, FSWs, PWID and floating migrants, are by no means the only significant contributors to China's HIV/AIDS epidemic. China is also attempting to manage HIV/AIDS outbreaks in FPD, MSM, MTCT and in the general population not belonging to any of the specific groups mentioned. Indeed, although the epidemic first began in PWID populations it is now primarily driven through sexual contact. As such the role of CSW and MSM populations has increased in importance. This does not diminish the need for continued research and programming for PWID and other migrant populations. It does mean that the HIV situation in Yunnan is still of high importance. It is still the province with the highest numbers of HIV+ in key populations such as PWID, migrant and ethnic populations and FSWs. Moreover, Yunnan still has the highest percentage rates of PLWHA. As such, this chapter now considers some of the particular challenges faced in this province and how it contributes to the overall spread of HIV in China.

## **HIV/AIDS in Yunnan**

As mentioned, Yunnan is the province with the highest rates of HIV infection in China. The location of Yunnan near the drug production area of the Golden Triangle makes southern Yunnan particularly important not only in China's HIV/AIDS epidemic and how it is responding to it, but also regionally in the countries that make up the Golden Triangle namely Myanmar, Thailand, Cambodia and Laos. There are significant security challenges in dealing with issues crossing national borders. Particularly considering the vast distances encountered along the China-Myanmar boundary line at 2185km, and the overall border including Myanmar, Laos and Vietnam at 4060km (HAARP, 2012; People's Republic of China, 2013). The transmission of HIV in Yunnan is increasing and the epidemic has not only spread across national borders but also from China's rural border areas to urban areas. It has also increasingly spread from the marginalised, rural ethnic minorities to the urbanised Han majority (Xiao et al., 2007).

Programs dealing with HIV in border cities require complex solutions to issues such as; a highly mobile migrant population, extensive poverty, difficult geographical obstacles and an extensive trade system both cross border and internally. Due to these challenging environments traditional health care approaches targeting specific groups through a formal system, although seemingly practical, have been found to be ineffective (Du Guerny, Hsu, & Hong, 2003). Moreover, collaboration between nation-states does not always produce effective resolutions as threats to national security and apportioning accountability (and ultimately financial responsibility) for issues that evolve often results in stalemates and lack of action (Chen, personal communication, December 2013).

Population mobility impacts upon the spread of HIV/AIDS. Population movement is complex and raises issues concerning not only the populations that are mobile, but their interactions on the stable populations through which they pass and interact. Sheldon (2000) for example describes the problematic nature of accounting for population movement and suggests it is, "...not often a simple movement from an origin to a destination but a complex system of multiple movements which are extremely difficult and time-consuming to map out" (p. 2).

Thus the difficulty of researching population movement has implications for the research of mobility in the spread of HIV/AIDS in Yunnan. Often people who cross borders are

undocumented and as such there is no information on their health status and it is difficult to obtain correct numbers of people moving (Beyrer et al., 2000). Ruxrungtham, Brown and Phanuphak (2004) discuss the problem of obtaining correct figures when dealing with the issue of HIV/AIDS and the state:

Unfortunately, despite the high rankings generally accorded Asian surveillance systems, significant gaps in coverage of key populations and quality problems remain, and few Asian countries have translated these data into effective prevention programmes, as can be seen by the continuing growth of epidemics throughout the region. (p. 75)

Presently a large number of China's HIV/AIDS sentinel surveillance sites are located in Yunnan and as such there is a great deal of knowledge about the epidemiology of HIV/AIDS in this region. Indeed, Jia et al. (2010) suggest that Yunnan's HIV/AIDS situation can act as a useful case study for understanding the epidemiology of HIV in other regions and as such inform future intervention programs. However, there are still gaps in research concerning the transmission of HIV throughout mobile, ethnic and cross border populations.

Similar to the challenges of population movement for established health care approaches is that of cultural diversity. Yunnan's population is diverse and in addition to the Han ethnic group there are more than twenty-five minor ethnic groups accounting for more than 1/3 of the entire population (Xu et al., 2013). Before 1996 the majority of all HIV cases in the area were concentrated in minority populations. While this situation has changed, pockets of high-risk minority groups still demonstrate increased incidence rates. In their 2006 study concerning PWID, Hammett et al. confirm that ethnic minorities are likely to be poor, less educated, unemployed and marginalised, which leads them into risk-taking behaviour. Therefore, it is essential that HIV/AIDS treatment and prevention programs consider the challenges faced in these populations and address current shortfalls in HIV education programming and accessibility.

Drug use among rural minorities is also disproportionately high due to their proximity to the Golden Triangle (Xiao, Kristensen, Sun, Lu & Vermund, 2007). In addition they are more likely to live in rural areas with limited access to health care and remote from many of the more established HIV/AIDS programs (Du Guerny, Hsu & Hong, 2003; Saich, 2006; UNAIDS China, 2011). Moreover, the geographical location of the rural farmlands means that many of the rural minorities overlap international borders and cross border (international) marriage is common as is cross border trade (HAARP, 2012).

Within Yunnan the highest percentages of HIV/AIDS cases overall are now in the Han ethnicity. This is due to the spread of HIV from rural minority areas into the urban areas such as Kunming where there are higher numbers of individuals in this majority population. Moreover, modes of transmission for the Han majority encompass many of those encountered by minority populations. In rural areas PWID are more likely to be male minority residents whereas in urban environments the highest percentage of PWID are Han Chinese with females thought to be between one third and almost one half of all PWID (McCoy et al., 2001; Xiao, Kristensen, Sun, Lu & Vermund, 2007). This is particularly significant when recognising that high numbers of PWID are believed to provide sex in exchange for drugs or money (Li, He, Wang & Williams, 2009). Additionally, in Yunnan it is estimated that 70 percent of FSWs are poorly educated Han Chinese (Xiao, Kristensen, Sun, Lu & Vermund, 2007). As previously stated, while injection drug use is still a driver, sexual interaction is now the main transmission mode for HIV among the Han population. However, drug use often plays a role in high-risk sexual behaviours.

Currently there are a number of government organisations, NGOs and local CBO working in Yunnan. The HIV/AIDS Asia Regional Program (HAARP) was an AusAid collaboration with the Yunnan CDC and various local NGOs and CBO along the Yunnan/Myanmar border areas which ended in November 2013. A particular concern for this program is providing PWID harm reduction both to users and their extended networks (partners, wives, girlfriends). They suggest that some of the most difficult to reach populations implicated in the expansion of HIV comprise Chinese and foreign nationals crossing borders from Myanmar, Thailand and Vietnam. Key ethnic population groups in the transmission of HIV and other blood borne infections include: Vietnamese fishermen, cross-border mobile construction workers, long-haul truck drivers traversing national boundaries, and FSWs, PWID and their partners passing between borders (HAARP, 2012).

Cross-border prevention and education programs have shown they can be effective in accessing these populations. However, there are a number of inhibiting factors that diminish the efficacy of cross-border health initiatives between China and its neighbouring states. There are very few programs actually running and those that are vary in quality and impact (UNAIDS China, 2011). As well as these issues, many national programs do not cover key populations from the ethnic minority populations in Yunnan's border and rural areas. This produces a vacuum in the dissemination of HIV/AIDS services and prevention education

(UNAIDS China, 2011). There is also a lack of political commitment by the PRC for the improvement of health and development in the ethnic minority areas due to complex historical contexts between the Han Chinese and ethnic minority groups (UNAIDS China, 2011). In the main this is due to the Han Chinese belief in their pre-eminence as the culturally superior rulers of China. In general, the ethnic minorities are considered backwards and uncivilised (Hansen, 1999). Regardless of ongoing difficulties, the PRC is making some recent efforts to include cross-border PLWHA into their available HIV/AIDS initiatives.

However, even when services are available there are issues for non-Chinese citizens attempting to access harm reduction facilities. At this time, only those with Chinese national identity cards can be admitted into existing HIV/AIDS programs (HAARP, 2012; UNAIDS China, 2011). Moreover, the cultural diversity and non-Chinese citizenship of many of those crossing borders; combined with the lack of adequate programs; challenging operational environments; and the reluctance of the PRC to finance programs for these highly mobile groups creates an environment that facilitates the spread of HIV. For example, this is particularly problematic when considering the significant number of Myanmar nationals, including students at a number of universities in Kunming, who are newly identified as being HIV+ in Yunnan (UNAIDS China, 2011; Xu et al., 2013).

Moreover, with millions of people crossing the border between Myanmar and Yunnan every year this poses a significant security risk (as porous national borders are unable to regulate the flow of people or goods) for the expansion of HIV within China and the border areas (UNAIDS China, 2011). Unfortunately, as noted earlier, the PRC is generally hesitant (or unable) to accept the burden of HIV prevention and education for non-citizens, even when there is some evidence to suggest prevention and treatment for Yunnan based non-Chinese will benefit their own HIV/AIDS prevention efforts (UNAIDS China, 2011). Many of the non-Chinese based in Yunnan are sexually active in the region and without adequate education and health care they have a great potential for transmitting the disease both within their own ethnic groups and the Han population. In Yunnan, as with the rest of China, HIV is currently being driven through sexual transmission. Of the 54 000 newly estimated cases in 2011, heterosexual transmission accounted for 42.2% and homosexual transmission accounted for 32.5% of cases (Wu, Meng, Xu, Lei & Jin et al., 2013).

Despite the increasing rates of infection, in the years since the PRC first began dealing with the HIV epidemic important steps have been made to halt the expansion of the disease. This has mainly been done through the implementation of various education and prevention programs and in recent years TasP. However, while in some areas the PRC has been actively running some programs (including pilot programs) that conform to GBPs, there is room for improvement in outreach efforts to rural minorities, and within highly mobile Chinese and non-Chinese populations. This is particularly the case in rural and international border areas where NGO presence is limited.

## **Conclusion**

In the initial stages of the epidemic the Chinese government was disinclined to accept the possibility of HIV becoming a problem for Chinese citizens. Due to Confucian ideas of morality, a negative portrayal of the West and initial outbreaks being confined to foreign nationals, HIV was considered a ‘Western’ disease confined to foreigners and those of low moral standing. In subsequent years the Chinese government has made efforts to address the ensuing stigma and misunderstandings of earlier years and many of the initiatives implemented by China have proven to be effective but are somewhat mitigated by the difficulties of the operational environment, lack of funding and existing punitive laws faced by key populations.

As shown, out of pocket treatment costs are prohibitive for most PLWHA. While there are some positive changes in the requirements for migrants to be able to access ART (although many migrants remain unaware of these changes); the financial burden of tests and counselling; travel to and from clinics; and ongoing needs for stability and regular attendance at government run hospitals and clinics does create issues for those needing to access therapy. Unless the PRC implements further cost cutting initiatives for these groups issues concerning adherence to ART regimes and voluntary testing and treatment will become further complicated. This is particularly so given the epidemic has now become sexually driven due to unsafe sexual practices and therefore has the scope to make debilitating inroads into the general population.

These conflicting initiatives must be reconciled if any substantial progress is to be made in halting the HIV epidemic in these groups. Especially when considering that such practices

further drive these marginalised populations underground making them even more difficult to access. Moreover, the hidden nature of these groups means that current prevention and treatment programs may not be as effective due to lack of substantial data informing decision making processes. This is particularly the case in Yunnan where the highly porous international borders allow for the transmission of HIV cross border. Lastly, it is essential for the PRC to adequately address issues of stigma and discrimination in high-risk, marginalised populations. The shame and fear that accompany attendance at medical treatment facilities, particularly those that are government run, mean that many high-risk individuals are refusing to be tested and when tested are reluctant to reveal their HIV+ status.

## **Chapter Five: HIV/AIDS key populations in China**

*One justice can overpower a hundred evils*

正压百邪

### **Introduction**

FSWs, PWID and floating migrants, are by no means the only significant contributors to China's HIV/AIDS epidemic. China is also attempting to manage HIV/AIDS outbreaks in former blood plasma donors, MSM, TG sex workers, MTCT and in the general population not belonging to any of the specific groups mentioned. While it is beyond the scope of this to give a comprehensive contextualisation of the situation for groups apart from the thesis cohorts, it is essential to continue research in these other key populations. However, they have significant impacts on the continuing transmission of HIV/AIDS in China and are thus briefly considered. Although the epidemic first began in PWID populations it is now primarily driven through sexual contact. As such the role of CSW and MSM populations has increased in importance. This does not diminish the need for continued research and programming for PWID and other migrant populations. Indeed, as already mentioned, the main cohorts of this thesis still act as primary drivers in the epidemic even in its now primary transmission mode of sexual contact. These groups interact on several levels and all of them to differing degrees are engaged in sexual risk behaviours.

### **MSM populations**

The situation for MSM populations in China is nascent as one of the areas of greatest concern for the spread of HIV. Globally, there is a lack of reliable data for this key population and evidence suggests that HIV/AIDS programs are lacking. UNAIDS reports:

Where data exist on HIV in these populations, they show that our collective responses are failing far more often than they are reaching scale or succeeding. Just as disconcerting, in many parts of the world, is the fact that few reliable data exist at all. (UNAIDS, 2009, p. 2)

China is one of those countries where very limited data exists at all. They are a hidden population and yet are thought to be significantly contributing to the spread of HIV/AIDS in China. Indeed in almost all areas of China these groups have increasingly high percentages of HIV infection.

The term MSM is an overall designation representing the different communities of men who have same sex intercourse, including bisexual, homosexual, TG and pre-dominantly heterosexual men. China's current MSM population is estimated between five and ten million, with 47 000 of them estimated to be living with HIV/AIDS (Ma et al., 2012; Peng et al., 2012). Some researchers comment that unless the HIV epidemic in MSM populations is brought under control China will become the global centre for MSM transmission (Ma et al., 2012). Not only have the percentages of PLWHIV significantly increased within this group over the course of China's HIV epidemic, there are also reports of new recombinant, more virulent, forms of the disease.<sup>18</sup>

Research recommends that 60 percent of at risk MSM populations need to engage in safer behaviours to generate any significant impact on the spread of HIV/AIDS. To achieve that, programs need to cover 80 percent of the population (Commission on AIDS in Asia, 2008). China currently falls short of this figure (Ma et al., 2012). MSM populations did not form a primary target for HIV prevention and education policy in China until 2004 (Ma et al., 2012). While the PRC has increased research and program efforts to connect with this cohort increased efforts are needed before a complete understanding of the situation emerges.

The MSM communities in China have been highly stigmatised and as such operate as a hidden community (Chen et al., 2012). This means that delivering HIV/AIDS treatment and prevention programs within these communities is extremely challenging. This is even more so due to the migrant status of many MSM. Research has found that HIV and STI infection rates among migrant MSM are higher than those among non-migrant MSM (Guo, Li, Song & Liu, 2012). Additionally, many of these migrants are from rural areas and return to their hometowns for traditional Chinese holidays potentially exacerbating the spread of HIV from urban to rural areas. This constant mobility coupled with a reluctance to be identified as *homosexual* makes it difficult to gain access to these vulnerable MSM populations (Chen et al., 2012; Jie, Ciyong, Xueqing, Hui, Lingyao, 2012).

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<sup>18</sup> New 01B recombinant strains have emerged in MSM populations in Anhui province from circulating CRF01\_AE and US-derived B strains. This reveals transmission linkages among different epidemic region-derived strains. These new recombinants appear to have increased pathogenesis. Studies show that even patients under the age of 25 (who should be adept at forming immune responses against invading pathogens) are progressing to AIDS with low CD4+ counts and obvious AIDS like symptoms (Wu et al., 2013).

This suggests that there is a combination of events or circumstances occurring among MSM cohorts which create a worse situation than would transpire if each happened separately (UNAIDS, 2009). It might be labelled a *syndemic*, which is a term coined by medical anthropologist Merrill Singer and suggests that a collection of interacting social and psychosocial circumstances can lead to increased risks of HIV within a population (Jie et al., 2012). Research has also indicated that people infected with HIV who experience these types of psychosocial problems may have decreased CD4 T-lymphocytes, increased viral loads, a faster clinical decline and higher AIDS-related mortality (Jie et al., 2012).

In China, conditions for a *syndemic* occur in homosexual and bi-sexual MSM cohorts as they are likely to encounter intimate partner violence, drug and alcohol abuse, high risk sexual behaviour and depression which can lead to a higher risk of contracting HIV (Jie et al., 2012). This is further exacerbated by events such as stigma and discrimination leading to psychosocial circumstances such as expectations of rejection, internalised homophobia, anxiety, depression and thoughts of suicide which then interact with HIV to magnify its impact both on the individual and their family lives (Jie et al., 2012; Peng et al., 2012). In addition to the psychological pain, the discrimination encountered by MSM causes them to fear accessing prevention services or being tested for HIV. The main reasons for this were concerns for confidentiality, fear of people learning their sexual orientation and fear of test results being positive (Ma et al., 2012). This is particularly concerning because if they are in stage one or two of the HIV infection they may incorrectly dismiss the symptoms and spread the disease to others. Overall, the combination of psychosocial issues and lack of knowledge concerning status may lead to MSM cohorts engaging in high-risk sexual activities.

High risk behaviour in MSM populations therefore specifically includes not being routinely tested for HIV, unprotected anal sex, multiple partners, group sex, commercial gay sex and sex with male strangers (Chen et al., 2012; Ma et al., 2012; Peng et al., 2012). Moreover, condom usage levels remain below acceptable prevention levels to be effective. Research findings suggesting that only 39.2 percent of MSM used condoms each time and only 62.5 percent used condoms in their last same sex encounter (Peng et al., 2012). Further, Chen et al. (2012) stated that MSM in high-risk groups had a mistaken belief that male homosexual activity would not increase the likelihood for contracting HIV and that no venereal diseases could be contracted if the sexual organs looked normal. They also report that within these

high-risk MSMs there was also a greater diversity in sexual behaviours and condom malfunction (such as slippage or breakage).

This becomes more troubling when considering that many of the MSM in China are involved in heterosexual relationships in addition to their homosexual encounters. Studies show that 44 percent of all MSMs are either married or cohabitating with women (Peng et al., 2012). One of the main reasons why MSM cohorts engage in marriage and partner relationships with women is to hide their sexual preferences (Guo et al., 2012; Peng et al., 2012). Chinese culture opposes homosexuality and as a result MSM are highly stigmatised and suffer high levels of emotional and psychological stress.

In studies undertaken among MSM populations it was found that some 50 percent of those involved had suffered abuse or discrimination due to their sexual orientation (Chen et al., 2012). It was also found that 50 percent of MSM do not use condoms with their spouses (Chen et al., 2012). As such there is concern that MSM may act as bridging populations for the expansion of self-sustaining HIV epidemics within the general population. While MSM are a key population in China it is very difficult to obtain data on their current situation due to the hidden nature of their activities and their reluctance to be identified as belonging to this cohort. While the situation is changing and there are more researchers venturing into this area more research needs to be undertaken. However, this thesis does not focus on this group due to the decision to target PWID populations as the epicentre of the outbreak; FSWs due to sexual interaction as an emerging transmission route into the general population; and undocumented migrants as an under-researched cohort with the potential to exacerbate the spread of HIV/AIDS throughout China due to high mobility between urban areas and location of origin.

### **TG sex workers**

Although TG sex workers face many of the same issues as MSM populations, and are generally included in the statistics for MSM, it is worth briefly mentioning them as a separate sub-group. They are often exposed to unique challenges associated with their activities as sex workers. Additionally, most TG women do not identify as male and therefore do not consider

they are men engaging in sex with other men.<sup>19</sup> When incarcerated, TG women are processed as males and therefore exposed to brutality on a level that MSM and most FSWs do not endure.<sup>20</sup> There is no legal recourse for them to be treated as women regardless of whether they have had gender reassignment surgery (Emerton, 2007).

Additionally, there appears to be limited HIV/AIDS information, or government will, targeted towards this key population. In order to address these situations UNAIDS suggested that:

Based on local epidemiological and social realities, enhanced responses must combine efforts focused specifically on men who have sex with men and transgender people, attention to their needs in broader HIV responses, and bridge-building with broader efforts to achieve gender equality, promote human rights and protect public health. (UNAIDS, 2009, p. 3)

Unlike MSM in general, TG people may have additional high-risk behaviours derived from inadequate availability of health services. The lack of availability of liquid silicon and hormones (which do not have government approval for the purposes of body augmentation) may result in their injection without medical supervision (Guadamuz et al., 2011). These back alley procedures result in high-risk behaviours such as needle sharing and the potential for HIV, hepatitis B and C and other infectious diseases – additional to injection drug use and sexual risk behaviours (Guadamuz et al., 2011).

The situation for TG women in China is unclear, beyond being able to state that it is troublesome. They are referred to as ghost people (*ren yao*). This is because they are rarely seen in public. They are neither men nor women in the eyes of most people and inhabit a world somewhere between the two (Chen, personal communication November 2013). They are highly stigmatised and unaccepted in society. Their very name in Chinese is an indication of how difficult they are to reach. Obtaining medical assistance is difficult due to discrimination and other legal barriers (such as needing to use male gendered birth identity when presenting for treatment) (UNAIDS, 2009). To fully understand the HIV/AIDS risks in

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<sup>19</sup> The AIDS 2014 conference provided a platform for TG sex workers to share their experiences through public discussions. At the conference, this was one of the points repeatedly made by TG women, regardless of their nationality.

<sup>20</sup> During the AIDS 2014 conference many TG women shared stories of having their heads shaved (and being put in the male prison population); being raped in prison; and being forced to perform oral sex on entire groups of prison populations. When removed from the general population, to prevent such violations from occurring, they were put in the segregated paedophile prison population. This reinforced feelings of despair as it accorded them a proxy status with those generally considered sexually perverted.

TG populations it is important to not simply look at the biological transmission routes but also their psycho-sexual and social determinants (Guadamuz et al., 2011). Clearly, they are particularly under-researched and little is known about their access to appropriate treatment or HIV/AIDS information but anecdotally it is considered to be inadequate.

## **MTCT**

MTCT of HIV is an increasing problem in China. While percentage rates overall are low, especially when compared to other key populations, there is still a slowly expanding epidemic in this cohort. Transmission of HIV from mother to child occurs during pregnancy, labour, delivery or breastfeeding. Yunnan not only had the first outbreak of HIV in China, in 1995 it also reported the first outbreak of MTCT transmission of HIV in China (Chen & Qian, 2005). Since that time transmission rates have continued to increase at a low percentage rate and of the 780,000 PLWHA in China, 1.1 percent were affected through MTCT (Qian, Vermund & Wang, 2005; UNAIDS and China's Ministry of Health (CMOH), 2012). However, prevalence rates differ significantly in different geographical regions (Liang et al., 2012). Regardless of MTCT transmission being a very low risk in China there are some concerns that infection rates are on the increase. Moreover, the PRC has continued to scale up efforts to reach pregnant women with HIV prevention measures.

The PRC has been offering MTCT services for HIV+ pregnant women since implementing pilot programs in 2002. In China screening for HIV during pregnancy has become a routine health initiative. Women who are confirmed to be HIV+ are presented with options including termination of their pregnancy or clinical interventions to reduce to risk of vertical transmission from mother to child (Liang et al., 2012). WHO suggests that without these interventions the transmission of HIV from mother to child ranges from 15 - 45 percent (WHO, 2013). With the interventions the rate is reduced to levels below 5 percent.

China is committed to following GBPI in this area and currently offers counselling, the option of an abortion or antiretroviral therapy (for women with CD4 T-cell counts below 350) and other assistance during the pregnancy including caesarean delivery when available (Liang et al., 2012; Wu et al., 2007). In addition to these initiatives during pregnancy they are also offered infant formula for 12 months to reduce the risks of transmission via breast milk (Coovadia et al., 2007; Wu et al., 2007). In the latter half of 2010, the PRC implemented a

new combination program that combines HIV prevention with syphilis and hepatitis B prevention (UNAIDS & CMOH, 2012). By the end of 2011 the CMOH stated that these service programs had achieved 100 percent coverage in provinces with more serious epidemics<sup>21</sup> (including Yunnan) and 39 percent nationwide (UNAIDS & CMOH, 2012).

The PRC has facilitated, and thereby increased, the coverage of HIV+ pregnant women by integrating these programs into routine mother and child health care networks (UNAIDS & CMOH, 2012). However, cases of MTCT have continued to increase. The CMOH (UNAIDS & CMOH, 2012) reported that in 2011 the number of reported cases of MTCT transmission in China had increased to 5315 (an increase of 1167) from 2010 figures of 4146. Of significant note are the high rates of abortion amongst HIV+ pregnant women as these figures are not included in prevalence percentages. As such, it is highly probable that the actual rates of transmission may be higher than those reported (Liang et al., 2012).

The figures point to an increasing problem and with rates of 1.1 percent of new HIV infections overall there are indications that HIV has crossed into the general population within China. This is particularly problematic because MTCT rates of infections of 1% or higher are used as a base line indicator that the epidemic has progressed into the general population (UNAIDS/WHO, 2000). Within Dehong prefecture in Yunnan the rate of HIV prevalence in pregnant women exceeded 1 percent in 2003 suggesting that the prefecture has been undergoing a generalised epidemic for a number of years (Xiao, Kristensen, Sun, Lu & Vermund, 2007). Jia et al. (2010) state:

Increasing prevalence among blood donors and pregnant women indicate HIV has begun to spread among the general low-risk population. HIV prevalence rates amongst these groups in Yunnan are above the national average and are increasing annually. In eight counties, prevalence rates reported by antenatal clinics already reached or passed 1%. (s. 38)

Therefore, although HIV/AIDS is still concentrated in high-risk groups, in some areas it has become generalised (Zang et al., 2010). MTCT transmission of HIV is also an important vector for the spread of the disease in China. Generally the other cohorts are either implicated in the transmission of HIV to mothers or the mothers themselves belong to one of the cohorts

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<sup>21</sup> The national prevention of mother to child transmission (PMTCT) Work Management Information System showed that in 2011, HIV counselling and testing services were provided to over 8 million pregnant women, and testing coverage increased to 92.9%. The percentage of HIV positive pregnant women receiving ART for PMTCT stood at 74.1% (CMOH, 2012, p. 9).

targeted by this thesis. Therefore, while this thesis recognises them as an important indication of the expansion of HIV into a generalised epidemic and an increasing route for transmission in China it does not focus on this group.

### **FPDs and blood transfusion recipients**

Two significant groups of PLWHA are FPD and iatrogenic blood transfusion recipients. Globally China is unique for the large numbers of FPDs that became infected through commercial plasma donation (Dou et al., 2010). This was largely due to the unregulated collection practices and the reinjection of pooled red blood cells (Dou et al., 2010; Hayes, 2005). Additionally, most infections occurred over a small timeframe in the early to mid-1990s. The cohort was rural, generally poor and generally engaged in high-risk practices such as injection drug use or sex work. The infection became a self-sustaining epidemic after infected individuals passed on HIV to their spouses and children but virtually no new infections occurred after the population reached infection saturation point (Dou et al., 2010).

China does have a financial and HIV/AIDS percentage burden due to the large numbers of HIV+ FPD. Financial costs continue to increase as large numbers of HIV+ FPD are currently receiving ART. Moreover, there is also the risk of HIV being spread through unprotected sex between serodiscordant couples (Wang, Zeng et al., 2010). Serodiscordant couples are those where one person in the relationship is HIV+ and the other is HIV negative. Significantly, the seroconversion rate between these couples is showing an upward trend (Wang, Zeng et al., 2010). Possible reasons for this increase include; the patients advancing to AIDS and higher viral loads leading to increased transmission; riskier sexual behaviours (such as lack of condom use) and a decrease in knowledge and self-protection; and lastly, a desire to have children regardless of the risks (Wang, Zeng et al., 2010). Overall, the research highlights the need for a strengthening of education and prevention services, condom promotion and counselling and support services (Wang, Zeng et al., 2010).

While there have been few new cases of HIV infection through blood collection practices due to PRC regulations concerning blood donation the unregulated practice of blood collection still exists to some extent (Reynolds & McKee, 2009). This has obvious implications for the renewed spread of HIV though these collection sites should these practices increase. There is

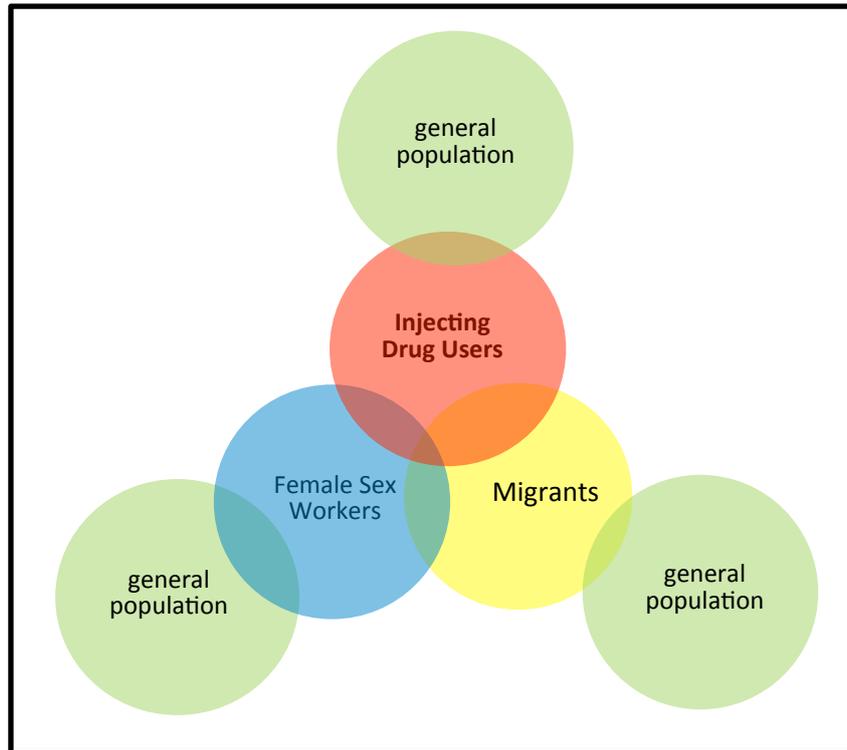
very limited information concerning this area and their contribution to percentages of HIV infection.

However, overall within China new infections due to blood collection practices are very low (Qian et al., 2005). Therefore the main concern with this cohort of PLWHA lies with the ongoing treatment of HIV+ individuals and the protection of serodiscordant partners and children. While this group is important to mention for its historical and ongoing contribution to issues surrounding HIV in China, they are no longer a main source of transmission. Therefore, this thesis does not target this cohort due to the fact that they are generally geographically stable and do not currently pose a significant threat to the further spread of HIV.

### **Thesis cohorts**

This chapter now returns to the three groups primarily being examined in this research, PWID, FSWs and floating migrants. These three cohorts were selected due to their high mobility, the generally illegal and stigmatised nature of their activities and their high risk for the spread of HIV in China in general and Yunnan specifically. Each cohort operates individually, and poses unique challenges for HIV prevention and education but tend to intersect with each other at some level, and all three groups can act as HIV conduits to the general population. For example, FSWs might be both migrants and injecting drug users or a combination of the three; the clients of FSWs may be migrants and may or may not be injecting drug users; and injecting drug users may be migrants and may or may not be clients of FSWs (see page 143, Figure 13). There are also other key populations (such as MSM) that they may intersect with on some level but this chapter concentrates on the three being researched as the most pertinent for understanding past and future HIV/AIDS epidemic trends in China.

**Figure 13: Possible interactions between cohorts**



Source: Compiled by author

## **PWID**

Injecting drug use (IDU) and the cross border passage of illicit drugs are implicated in the spread of HIV/AIDS in the region surrounding Yunnan and in the province itself (Beyrer et al., 2006). Wang et al. (2009) undertaking research in Yunnan found although low condom usage rates increased the risk of commercial sex worker to client transmission, injection drug use was:

...the single largest risk factor for HIV acquisition among FSWs, much larger than any risk factor traditionally associated with sex work, such as condom use rates, numbers of partners, and STIs. (p. 168)

In China, PWID who are HIV+ are stigmatised and marginalised for engaging in immoral practices and suffer the additional ignominy of infection with an incurable disease. Coinciding with the stigmatisation involved with drug use it is an illegal activity that may lead to incarceration and compulsory rehabilitation programs.

Regardless of the contraindications for drug use in China, there was an estimated increase from 70 000 PWID in 1990 to over 1.16 million registered PWID in 2005 (Li, Ha et al.,

2010), which is an astonishing 1 557 percent increase. However, the 2005 figures are out of date, and are potentially and most likely now considerably higher, but there is extreme difficulty in obtaining more precise numbers due to under reporting and a general lack of dissemination of current figures by the PRC. While these figures are not specific to Yunnan it does show that China is experiencing a continued increase in the numbers of drug users. Increases in drug use can be intuitively applied to the situation in Yunnan particularly due to their proximity to the Golden Triangle and drug trafficking routes. It is clear that a cumulative number of users and public perceptions, and subsequent stigmatisation, exacerbate the situation for drug users in China.

The main drug of choice for PWID in China is heroin (this is possibly owing to the extensive cross border flow of opiates from Myanmar) (Qian et al., 2006). Due to increases in illicit drug prices many users changed from inhaling heroin (chasing the dragon) to injecting heroin as it provides greater cost effectiveness to the user in achieving the required effect at lower doses (Bao & Liu, 2009; Che et al., 2011; Qian et al., 2006). IDU has been well documented as being responsible for efficient transmission of HIV due to unsafe injecting practices, such as needle sharing, and other high risk behaviours within the drug using community (Hammett, Des Jarlais et al., 2007; Qian et al., 2006). It seems clear then that the high-risk behaviours involved with injecting drug use mean that those areas with the highest rates of injection drug abuse are also likely to be the areas where HIV is most prevalent.

The severity of the HIV epidemic in China is currently most prevalent in PWID, varies extensively and as of 2007, 78.2 percent of all drug cases in Yunnan were reported in Dehong, Honghe, Dali, Lincang, Wenshan and Kunming municipality (Jia, Luo et al., 2010). Significantly, within China injecting drug use is more prevalent among unemployed, poor ethnic minority populations already marginalised by society (Hammett, Des Jarlais et al., 2006). This makes the delivery of HIV/AIDS programs problematic as these groups of people are already disengaged from society and often in difficult to reach areas.

Delivering good HIV clinical care for PWID is also complicated by a range of challenges related to drug dependency, such as social problems including marginalisation, and medical and psychological issues (Li, He et al., 2009; Liu et al., 2006). Some estimates such as those suggested by Philbin and Zhang (2010), advise that as of October 2007 there were between 40 000 and 50 000 PLWHAs in Yunnan being serviced by eleven methadone clinics,

government run needle exchange programs and a small number of NGOs. According to Tsai et al. (2010), Chinese authorities have made efforts to provide harm reduction facilities and education as: “Compelling evidence suggests that availability of clean injecting equipments for injection drug users is a cost-effective and cost-saving strategy for reducing HIV/AIDS” (p. 546). Added to these issues are difficulties involved with HIV+ PWID being able to afford methadone treatment with many PWID having no stable job and less access to basic needs such as housing, food and medication (Li, He et al., 2009). Their high mobility and marginalisation also make it difficult for PWID to access methadone drug programs and regular medical care (Zhang, Hsu et al., 2006).

The illegality of drug use in China can also pose access difficulties for the effective implementation of harm reduction and HIV treatment and prevention, as there is a fear of arrest and detention (Philbin & Zhang, 2010). Within China, campaigns of law enforcement are categorised by long periods of weak or lax enforcement and short periods of intense and coercive enforcement (Van Rooij, 2016). These periods of intense enforcement are known as *strike hard (Yanda)* campaigns. In effect they are intense police campaigns targeting illegal activities. They have been strongly condemned for their brutality, human rights abuses and neglect of criminal procedural laws, with different campaigns resulting in deaths (in the 2001 *strike hard* campaign 2960 people were sentenced to death and 1781 executed within the first 3 months) (Van Rooij, 2016). They are problematic in HIV/AIDS scenarios as they create a climate of fear towards police and pressure PWID and CSWs to become even more hidden, marginalised and harder to reach. In the context of this thesis, *strike hard* campaigns focus on specific areas known to be frequented by CSWs and drug users in an effort to arrest and/or detain them for re-education. Hammett, Wu et al. (2007) confirm:

...crackdowns, mass arrest, forced detoxification and incarceration of drug users...and in many places crackdowns on drug users have become almost continuous. Strategies include arrest quotas, use of paid informants and bounties for turning in dealers and users, and further expansion of compulsory detoxification centers and re-education through labor camps. (p. 138)

Initially PWID may be offered a voluntary detention in detoxification centres but if they are caught using drugs again they may be sent to compulsory centres or labour camps for up to twelve months (Li, Ha et al., 2010; Qian et al., 2006).

Additionally, law enforcement crackdowns have contributed to the changing nature of drug use from nasal inhalation *chasing the dragon*, to injection use. This is due to increased prices and the need for compact, refined drugs that are easier to distribute (McCoy et al., 2001). The result is that users turn from inhalation to injection as it provides a less expensive, more satisfying, quicker result as well as being more portable as syringes are relatively easy to dispose of and hide from police (McCoy et al., 2001; Qian et al., 2006).<sup>22</sup> This is particularly important when simply carrying a syringe can raise police suspicious resulting in them demanding a urine test which can then be used against them as evidence (Chen, personal communication, November 2013). Another result of police law enforcement has been to cause users to pool together in areas they consider safe from police but where sharing of needles is more likely to occur (McCoy et al., 2001).

There is also strong evidence to suggest that in Yunnan, male PWID who frequent FSWs, and FSWs who are themselves PWID, may have played a crucial role in the transition of the HIV epidemic from being IDU driven to being sexually driven (Jia, Luo et al., 2010). Molecular genetic evidence in Yunnan, as discussed on page 101, point to the HIV strains which are spreading through sexual transmission are likely to have originated in the PWID population (Hammett, Wu et al., 2007). One possible reason for this is indicated in research which has demonstrated that PWID engaging in sexual contact were less likely to use condoms, more likely to have multiple sex partners and have a PWID sex partner and engage in unsafe injecting practices (Li, He et al., 2009).

There is an increasing overlap between drug use and sex work particularly among female sex worker populations, which may be providing a growing bridge between these high risk groups and the general population thereby exacerbating the rapid spread of the epidemic in China (Jin et al., 2010; Jun et al., 2008; Yang et al., 2005). Indeed this is a common pattern with HIV epidemics globally. Although local and national HIV treatment and harm prevention programs for PWID generally focus on reduction of drug use, studies suggest there is a need to expand programs to deal with promoting safer sex and reductions in the number of sexual partners (Hu et al., 2011). Thus a need for further understanding of the connections between drug use and sexual activity is one reason that this group is targeted in this thesis. Without implementation of these types of programs it is possible that the local and

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<sup>22</sup> Indeed this situation is similar to that which occurred in Xinjiang. Strike hard campaigns resulted in a change in drug-taking practices from smoking heroin to IDU (Hayes, 2012).

global human security risks intrinsic to a HIV epidemic in China may evolve from concept to reality.

### **FSW populations**

The highly permeable international borders in Yunnan mean that in addition to drug trafficking, there is a cross border trade in other goods and services (Tagliacozzo, 2001). Women are subject to both internal and cross border trafficking and this has been shown to be directly contributing to mutations of the HIV virus and the global dispersions of HIV subtypes through sex trafficking (Huda, 2006). Additionally, rapid industrialisation has created unprecedented migration flows in China (Long, Zou & Liu, 2009). Rural workers are flocking to urban centres in search of higher paying jobs with which they may support family members in their home communities. Generally, FSWs have a very high rate of mobility increasing the potential for them to facilitate the spread of HIV, and other STIs implicated in the increased risk of infection with HIV, between rural and urban areas (Ding et al., 2005; Knutsen, 2012; Wang, Li et al., 2007). One reason for FSWs forced mobility is the need to maintain an income in an environment where brothels are pressured by clients to continually provide a line-up of new faces (Wong & Yilin, 2003). Migrants are thus absent from their usual support networks and community and family constraints, causing them to indulge in high risk behaviours such as paid sex and drug use (Zhao et al., 2005).

This situation creates both a supply and demand for sex workers. While there are both male and FSWs, this thesis concentrates on FSWs as they represent the highest number of CSWs. As migrant women appear to have increased sexual risk and higher rates of STIs than their male counterparts, coupled with a low socio-economic status, it has been suggested that a high proportion of them may be engaging in sex work (Knutsen, 2012; Wang, Li et al., 2007). This has implications for the expansion of HIV/AIDS in China and poses a significant human security risk as transmission is now predominantly taking place through sexual contact.

The prevalence of sex work in China has increased rapidly since the beginning of China's reform and opening period and the relaxing of constraints with the West from 1978 (Pirkle et al., 2007). CSWs can be found in a myriad of locations in China from remote rural villages to large urban cities and number in the region of between 4-6 million (Kaufman & Meyers, 2006; Pirkle et al., 2007). However, depending on how sex work is categorised and including

those who occasionally accept gifts and money for sex that figure might be as high as 20 million sex workers (Jefferies, 2015). Significantly, the highest rates of FSWs who are HIV+ are found in Yunnan and particularly in the border areas near Thailand, Myanmar and Vietnam (Wang et al., 2009). Programs dealing with FSWs in Yunnan faced further challenges for accessibility as rather than congregating in a specific red light area FSWs are distributed throughout the village or city (Chen, personal communication, November 2013). As such it is impossible to reach them other than on an individual level with peer educators known to individual FSWs or referred to them by trusted friends.

Reinforcing points made earlier in this chapter, the high numbers of HIV+ FSWs in Yunnan may be attributed to injecting drug use and infrequent use of condoms with clients and regular sexual partners (Wang et al., 2009). Jun et al. (2008) suggests:

...it is possible that drug users who also engage in unsafe sex with both high-risk populations (sex workers) and low-risk populations (regular partners or spouses) may be fueling the current epidemic, especially in the high-IDU area of Yunnan. (p. 564)

The large number of mobile FSWs in Yunnan is largely due to the key role played by drug abuse and the pull-factors caused by servicing the overall demographics of the rural population who are young, male, and suffering from high unemployment (Jia, Wang et al., 2010).

With the majority of sex workers being female, an additional driver thought to be responsible for the increased rate of sex workers is the Chinese one-child policy and China's cultural preference for sons (Chi et al., 2013).<sup>23</sup> Women traditionally, leave home to become a member of her husband's family (Hesketh and Xing, 2006; Tucker et al., 2005) while culturally the son is tasked with taking care of the parents in their old age and carrying on the family line (Xiaolei et al., 2013). As a result, there has been a tendency for women to abort their child if an ultrasound reveals it to be female. While female infanticide is forbidden by the PRC sex-selective abortions are still relatively easy to obtain (Xiaolei et al., 2013). The imbalance in sex ratios, resulting in about 118 males born to every 100 females in China (in 2010), has left many single men unable to find partners (Tucker et al. 2005; Xiaolei et al., 2013; Yang, Latkin et al., 2010; Zhou, Yan, Hesketh, 2013). As a result of being unable to

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<sup>23</sup> The one child policy was revised in 2015 and on 1<sup>st</sup> January 2016 a two child policy law became effective.

find a partner they are more inclined to frequent FSWs, which adds to the demand for sexual services.

While research has been undertaken on the role of FSWs in the spread of HIV in China there is far less research being undertaken on the role of commercial sex clients, in particular male migrants as bridging populations (Zhao et al., 2005). As such, more research needs to be done on the formation of effective HIV education programs targeting the clients of FSWs. Indeed, it must be noted that the burden for prevention efforts (through attendance at treatment and prevention programs) and the spread of HIV (due to the need to demand condom usage) must not be placed on sex workers alone, as they are often the least powerful in sexual negotiations, but also upon the clients of sex workers as bridging populations to the general community (Yang et al., 2010; Yi et al., 2010).

Prevention programs in FSW communities have had some limited success but there are still many FSWs and their clients engaging in high-risk behaviours. This may be partially due to the high turnover rates of FSWs (Ding et al., 2005; Wong & Yilin, 2003). Additionally, intervention workers are faced with challenges due to the varied types of sex workers (Parish & Pan, 2006). UNAIDS comment: “Sex work is continually evolving. Many interventions are missing new categories of mobile and informal sex workers. Critically, prevention programmes seldom reach out to clients of sex workers” (UNAIDS, 2011, p. 20). Commercial sex is generally venue-based with a ranking system from that of hotel courtesans through to massage girls and lastly, streetwalkers all of which display a considerable variation of sexual practice and HIV risk (Parish & Pan, 2006; Yang et al., 2010).

There is often little room for FSWs to negotiate condom use and often the male clients feel little concern for their welfare, particularly in the lower hierarchies (Burriss & Xia, 2009; Parish & Pan, 2006). The level of risk exposure is reported to vary depending on which rank of the sex industry a worker is employed in; with FSWs in the lower ranks having a HIV prevalence of 17.9 percent as compared with the 5.7 percent prevalence rate of those higher up in the industry (Yang et al., 2010). Added to which:

Sex work is a fluid occupation influenced by economic conditions. Due to the illegal nature of sex work and FSWs geographical mobility, it is difficult to sustain outreach, education, and counselling programs targeted at the individual level among these mobile populations. (Yi et al., 2010, p. 8)

Irrespective of the illegality of commercial sex work in China, the government has implemented programs aimed at reducing rates of HIV infection such as condom distribution, education programs, and free HIV treatment programs for those infected (Wang et al., 2009). However, FSWs are obliged to negotiate double risks and stigmatisation, that of STI/HIV and of arrest and mandatory detention due to the *strike hard* campaign (as explained on page 139). Under the terms of this campaign they may be confined from three months to six years and be tested for HIV and other STIs without consent and simply carrying a condom may be grounds for arrest (Burriss & Xia, 2009; Pirkle et al., 2007; Sharma & Chatterjee, 2012). This adds to the increasing prevalence of HIV as the perpetual movement of FSWs contributes to the expansion of their sexual networks and refusal to be tested and treated for STIs and HIV for fear of police crackdowns and arrest (Pirkle et al., 2007).

This cohort has been targeted in this thesis because the constant mobility of FSWs not only causes dilemmas with accessing health services it also means that FSWs potentially spread HIV to new regions through an expanded client base. FSWs combination of high mobility, drug use, early first sexual encounters, low education levels, youth and low rates of condom use create a perfect synergy for the expansion of HIV infection into lower risk populations through their clients and casual boyfriends (Chen et al., 2005; Merli & Hertog, 2010). When this is combined with a disinclination to be tested for HIV, resulting in ignorance as to HIV status, the potential ramifications for the spread of HIV increase exponentially.

### **The floating migrant population**

China has an extensive number of internal labour immigrants moving throughout the country in search of work (Hyde, 2007). Many of them are registered in accordance with the existing *hukou* system of household registration but a large number are not and make up what has been termed China's floating population. In China's current *hukou* system, every person is allocated a permanent household registration with an official agricultural or non-agricultural status.

According to China's National Bureau of Statistics, at the end of 2011 there were an estimated 252.78 million migrant workers in China. Of which, an estimated 73 percent travelled from poorer regions of China (Li, Huang et al., 2009). Economic migrants are those who have left their place of household registration to take up employment in general

professions, such as factory workers or labourers, in urban centres (Li, Huang et al., 2009). To legally make such a move residents are required to obtain official approval and obtain a temporary or permanent residency permit. However, many do not do so (Tuñón, 2006).

The fact that these migrants are outside of official channels not only makes them difficult to document, but it also means that they may find it extremely difficult to access health care and education and prevention programs (Tucker et al., 2011). Indubitably, having an undocumented status complicates the situation for both cross border and internal labour migrants. Tuñón (2006) states:

...obtaining a precise representation of the scale of migration is further complicated by its clandestine nature: only an estimated 40% of migrants obtain either a temporary or permanent resident permit. The remainder, who have lived without local authorization for at least six months, are known as the 'floating population' and migrate, reside and work through informal and unregulated channels. (p. 7)

Mobile populations in the region have already been identified as important vectors of HIV transmission (Kaufman, Kleinman & Saich, 2006). Piot, Greener and Russell (2007) suggest that rapid economic development has increased the mobility of people both within and across borders and that this mobility correlates with higher rates of HIV infection. This increase in mobility has also aided the cross border trade in illicit drugs between Myanmar and Yunnan further facilitating the expansion of HIV/AIDS in the region (Beyrer et al., 2006). The most affected states in the context of HIV/AIDS are the Myanmar border zones with Yunnan (Beyrer and Lee, 2008). The migration of people for labour is a factor that worldwide has been found to increase HIV risk as it separates spouses, families and individuals from their kinship and support networks for extended periods of time (Lin et al., 2011; Skeldon, 2000).

Studies have found that labour migrants face considerably greater risks of contracting HIV due to increased risk taking behaviours. Jun et al. (2008) comments that approximately 11 percent of male migrants had engaged the services of sex workers and in Shanxi and Shandong provinces almost 70 percent of all PLWHA were migrants. Wang, Li, Stanton, Fang, Lin et al. (2007) state: "The separation from family, lack of social control, relative affluence, and anonymity of living in a city make male migrants particularly vulnerable to commercial sex and HIV risk behaviors" (p. 2). Many of these labour migrants are surplus young men stemming from the sex ratio imbalance inherent in the one child policy and a

cultural bias against female children (Merli & Hertog, 2010; Yang et al., 2010). In addition to this, their relative youth, lower socio-economic status, frequent migration and loosening of community restraints has been found to increase risk taking behaviours and social and sexual mixing (Knutsen, 2012; Li, Huang et al., 2009). Indeed, Xiao et al. (2007) examining the spread of the HIV/AIDS problem in Yunnan submits that the migration of young men may be fuelling the sex industry. There appears to be a higher likelihood that migrant men will indulge in casual sex or use sex workers, and in doing so they may increase their exposure to HIV through multiple partners, high rates of unprotected sex and drug use (Knutsen, 2012; Wang, Li, Stanton, Fang, Lin et al., 2007; Yang et al., 2010).

Migrants have a low knowledge of HIV and the risk behaviours to be avoided and limited access to information that may help them understand those risks (Huda, 2006; Liao et al., 2011; Zhao et al., 2005). As stated by Tuñón (2006, pp. 14-15): "...migrants are faced with a dearth of information and limited services in the area of sexual and reproductive health...HIV/AIDS also looms over the large, young and mobile population free of traditional constraints". There is also some concern that rural labour migrants may be uninformed and ill-prepared for the situations that they may face when arriving in urban areas. This seems to be particularly the case with girls and young women who may be forced into situations of exploitation such as debt bondage, sexual exploitation and forced labour (Tuñón, 2006).

However, it would be incorrect to assume that the PRC is doing nothing to help facilitate access to prevention and education services for labour migrants, as they have introduced a number of different interventions addressing migrant's vulnerabilities, but they are still well short of what is needed and are limited by the complexities of the current *hukou* system and urban-biases (Hu, Cook & Salazar, 2008; Tuñón, 2006). As a result there continues to be many migrants that are unable to access even the most basic of education and health care.

Generally the cost of health care is prohibitive for people who are not under their employer's health insurance schemes, and China's insurance system mostly excludes migrants, as even public clinics and hospitals require payment (Li, Huang et al., 2009). Conversely, even though migrants may find accessing basic health care needs easier in their home communities the health care systems for sexual health may be poorly established (Yi et al., 2010). In the past it was necessary to get drugs from an appointed health care site according to the *hukou*

system in order to be eligible for the 'Four Frees and One Care' policy (Li, He et al., 2009). As a result of this requirement many migrant workers were excluded from accessing health services. This was no longer entirely correct as requirements for free ART are simply a range of tests and counselling to determine status and CD4 count (now increased from below 200 to below 350) regardless of registration status (Chen, personal communication, November 2013). Unfortunately, information regarding these new regulations is poorly disseminated which, when added to the high cost of healthcare and low annual incomes (see page 121, Figure 8) leaves an estimated 80 percent of the rural population without health insurance. As HIV/AIDS services are exclusively administered in government treatment facilities migrants remain reluctant to access healthcare services outside of their *hukou* registrations (Tuñón, 2006).

This group has been targeted in this thesis as migrant populations, especially those that are outside the *hukou* system, act as links between FSWs and PWID as they can belong to, or interact with, both cohorts, and the general population when returning to their home communities. When considering that male migrants indulge in high-risk behaviours and represent an important subgroup of CSW clients, some researchers believe that these population groups may represent the tipping point for the transmission of HIV in China (Jun et al., 2008; Li, Huang et al., 2009; Wang, Li et al., 2007; Zhao et al., 2005). This is particularly due to their high mobility and regular return to rural home communities.

## **Conclusion**

The situation for HIV/AIDS in China is one of continuing concern. The epidemic is dynamic and there are new cases of HIV reported regularly. Although this chapter provides a brief overview of a number of vectors for the transmission of HIV in China, such as MSM, MTCT, FPDs, FSWs, PWID and floating migrants they do not equally contribute to high-risk factors for the spread of HIV. As shown, with the exception of MSM, the cohorts researched engage in the highest risk behaviours of populations implicated in the spread of HIV/AIDS in China. As such, this chapter clearly indicates the reasons for choosing the three cohorts that will be concentrated on for the remainder of the thesis. In addition to all of them being the main transmission routes for HIV in Yunnan, with high rates of infection in selected pockets, they are all key populations that are highly mobile and marginalised by society.

A case has also been made for the epidemiological evidence suggesting that the initial spread of HIV in China started in PWID populations in Yunnan. While the overall percentages for China as a whole do remain low, the cohorts mentioned in this chapter all engage in high-risk behaviours and have ongoing HIV epidemics. This is particularly the case in Yunnan where proximity to the Golden Triangle and porous borders with Myanmar, Vietnam and Laos creates an environment that is particularly conducive to drug use, sexual trafficking and high mobility. Subsequently, they continue to require resources and treatment and prevention initiatives that keep pace with the changing nature of infection in China.

Furthermore, as shown the epidemic is still active in more longstanding groups of PLWHA, both within Yunnan and the rest of China and vigilance is required within these cohorts to improve upon current levels of infection. As an example of this, even though blood collection practices have changed and the epidemic has generally halted in cohorts of FPDs, there is increasing concern that individuals are becoming more blasé about how they are managing their prevention efforts and as such numbers of infections have increased in some areas. This is even more so in key populations such as PWID, CSWs, MSM and the floating population as they are less likely to seek medical intervention or be tested for HIV than other population groups due to the illegal nature of their practices, high mobility and stigma.

In Yunnan and other areas within China, HIV/AIDS interventions within these cohorts become even more difficult when issues such as arrest and detention hamper treatment and prevention programs. The illegal nature of sex work and drug use, coupled with current *strike hard* campaigns, is deleterious to the work being undertaken in the promotion of safe injection practices and condom usage. As long as carrying a condom can lead to suspicion of sex work and possible arrest it will not be seen as an attractive option for FSWs.

## **Chapter Six: Field research in Yunnan**

*Coming events cast their shadows before them*

山雨欲来风满楼

### **Introduction**

This chapter presents the information from field research undertaken from October to December 2013 and June 2014 in Yunnan Province in Southern China. This research was approved and endorsed by Bond University and was carried out in adherence to strict ethical guidelines as discussed on pages 17-18 of the introductory chapter. It is important to note that all interviews were conducted with members of NGOs and CBOs operating in a HIV/AIDS context within China. Additionally, all participants held places of authority within their organisations or operated as leaders or peers in HIV/AIDS outreaches and are thus sufficiently knowledgeable in their areas of operation. The expert nature of these individuals and peer workers operating within the thesis cohorts allows for a comprehensive understanding of the underpinning issues faced by the majority of individuals in these contexts. Moreover, there was consensus among all interview participants. The issues, or challenges and shortfalls, identified within China's HIV/AIDS contexts (as negotiated by these experts in the field) were similar in Beijing, Kunming and Ruili where interviews and observations were conducted.

Due to the highly sensitive nature of the research the anonymity of all participants' was assured and as such; any information allowing for the identification of any person has been removed. This includes names of participants, the names of the organisations, and the names of some townships where observations were carried out. Rather, participants will be identified in this chapter by replacing their real names with some of the most common surnames in China. This was necessary to ensure that people had the confidence to provide comprehensive information regarding the situation. Without these assurances of strict confidentiality it would have been virtually impossible to find any willing participants due to fear of reprisals.

### **General research findings and constraints**

The main reason for this emphasis on anonymity is that in China there is still a culture of reluctance to be seen to be criticising the government. It is surprising that there is still such a

climate of fear in China considering the ways that China has opened up over the past decade. People were understandably uncomfortable about putting themselves in a position where their assistance in this research might cause them problems in the future. Members of some other NGOs approached declined to participate regardless of assurances of anonymity as they felt that there was still some risk implicit in speaking on the subject at all. Some commented that meeting a HIV/AIDS researcher in even the most casual of encounters might shine a spotlight on them or possibly get them into trouble. In email conversations where interviews were declined stated reasons included, “As there is a stigma when dealing with HIV etc, [sic] these projects might be a bit sensitive to interview” (personal communication, 10 March, 2013) and, “I have spoken to our leaders and we all agree that due to the sensitivity of these projects, we can't have any interventions at this stage” (personal communication, 3 July, 2013).

This reluctance to talk did cause some limitations concerning the number of participants prepared to engage in the research and it speaks volumes about the operational climate for NGOs involved in this area. It appears that HIV/AIDS is still a sensitive subject for the PRC. This obviously has implications for those who are working on the ground but it appears that some NGOs are prepared to work in a restrictive environment if it means that they can deliver HIV/AIDS programs. When their safety was assured there were a number of people keen to identify areas where current programs and policy might be improved. As such, the field research has provided valuable insights into the current HIV/AIDS situation in China and has identified emerging trends for the spread of infection in Yunnan specifically and China in general.

## **Methodology**

In most interviews, while still following a semi-formal approach, specific questions were asked of individuals (see appendix 3) while at other times the interviews followed a less structured and more conversational approach. During the time in the field there was opportunity to observe several programs in action and gain an understanding of the restrictions as well as accessibility that NGO workers faced on the ground. This ethnographic approach allowed for the observation of interactions between NGO staff and recipients. It also allowed for an insight into the living situation and daily issues facing HIV+ individuals in Yunnan. It is one thing to understand the research but quite another to gain an understanding of the issue in situ. This was particularly the case when the opportunity arose

to spend time visiting HIV+ PWID and FSWs in their township living environments. All recipients of the NGOs resources were living in poverty, were unemployed (unless engaged in sex work) and highly stigmatised by the rest of the township.

While the names of some smaller townships have been omitted it is possible to say that interviews took place in Beijing, Kunming and Ruili. The interview participants were all employed in both paid and/or volunteer positions with organisations currently active in the delivery and preparation of HIV/AIDS programs in highly mobile population groups. Some of the individuals spoken to (via an NGO interpreter) were employed by NGOs in peer roles and were themselves PWID, FSWs or migrants (or a combination of two or more of the three cohorts) all of whom were HIV+. Although there was an opportunity to ask questions these interactions are not considered to be interviews and rather come under the umbrella of incidental conversations and their value lies solely in their contribution to a general understanding of the HIV/AIDS situation in China.

According to the data gathered during interviews, incidental conversations and observations improvements must be made before China effectively deals with its still expanding HIV epidemic. While there have been enormous strides forward over the past two decades there are a number of areas where effective interventions appear to be lacking in scope and number. These will be discussed further in this chapter but some of the reasons for this may stem from the basic premise with which the epidemic is viewed in China. Stigma and discrimination of PLWHA are continuing problems that may stem directly from the lack of basic human security. The problems resulting from lack of human security have been discussed in other areas of the thesis but it is helpful to contextualise them within the constraints of the field research and as such the next section briefly reintroduces the topic.

### **Issues of human security**

The fact that China approaches the epidemic almost solely from a public health model means that their concern lies with the general public and halting the spread of HIV into the general population. While it is essential to deal with the spread of HIV into the general population it should not be done so in a manner that deprives those who are already HIV+ from having their basic human security needs addressed. Perfunctorily, it seems reasonable to disregard the human security of PLWHA in the pursuit of the greater good. However, this thesis argues

that if their right to human security is upheld it will make a positive contribution to the prevalent non-traditional threat to security the epidemic poses to China as well as contributing to halting the spread of the disease.

The human security of the individual should become paramount in the midst of HIV/AIDS epidemics (McIntosh & Hunter, 2010). The UN has contextualised the situation within a human security framework (UN, 2000). In protecting the human security of the individual, both PLWHA and those within the general population, the dilemma of whether to consider the rights of the individual or the population as a whole becomes a moot point. They become complimentary goals (Ogata & Sen, 2003). When PLWHA are enabled and free from fear and want then they become productive members of society; they become less of a burden on the financial agendas of the government; and they suffer less under the burden of marginalisation and stigma (Fukuda-Parr, 2003; Nishikawa, 2009).

When introducing the subject of human security during field research those who were interviewed felt that the PRC had little concern. Two participants conceded that the rights of PLWHA and high-risk individuals were important as long as they did not interfere with the overarching goal of assuring public health (Chen, personal communication, October, 2013; Wang, personal communication, November 2013). Therefore, all concerns with the individual are circumvented when they are perceived to impinge upon public rights and concerns with safety. Moreover, there was no consensus concerning the point where the rights of the individual no longer mattered. Rather just a general idea that the public good mattered more. This seems particularly concerning given that these populations are already highly vulnerable, marginalised and stigmatised.

Therefore, what if it was deemed best for public health for PLWHA to be occluded from interaction with the public at all? China already has mandatory re-education and treatment centres for FSWs and PWID. It may seem extreme to consider that mandatory treatment centres for HIV/AIDS may arise in China but where the human security of the individual is disregarded when juxtaposed with that of the general public, then it becomes a possibility. No one that was interviewed or observed implementing HIV/AIDS programs held the view that PLWHA should be detained. Indeed, one pointed out that the PLWHA they were assisting were fathers and mothers who worked to support family units and positively contributed to the economy (Liu, personal communication, October 2013).

However, in incidental conversations with some members of the general public they expressed the belief that they would feel safer if detention was the reality. It seems that, in some quarters at least, there is still a sense of fear concerning the potential metastasising of HIV/AIDS amongst the general population. One person who held this view was university educated. Thus, it is not just a lack of education per se at the root of this disquieting opinion but rather a lack of effective education on the topic of HIV/AIDS. This is even more concerning when coupled with the understanding that school children and university students do receive some education on HIV/AIDS. Consequently, the question of whether they fully understand the provided educational materials and information or indeed whether the materials and methods are effective presents itself. While outside the scope of this study, it seems probable that this is an area that would benefit from increased research.

### **World AIDS Day activities**

In China, World AIDS Day is the traditional day for the dissemination of HIV/AIDS related material. It is seen as an opportunity to educate students and the general public concerning issues of stigma; the vectors for the spread of HIV; and steps that can be taken to reduce the risk of contracting the disease. During the field research the Kunming newspaper was scanned regularly; web pages (such as *GoKunming*); television programming; and in particular attend any events that were being hosted on World AIDS Day. While there was one television advertisement dealing with the issue of HIV there were no specific newspaper articles and only the *China Daily*, (as the paramount broadsheet newspaper) was scrutinised. The *China Daily*, Kunming television programming and *GoKunming* were specifically chosen for perusal as these information platforms are the highest used sources of news and community information for the majority of Kunming residents. Thus, any attempts being made to disseminate information with the intention of reaching the highest volume of audience when advertising World AIDS day activities would certainly have appeared in either the *China Daily*, Kunming television programming or *GoKunming*. What was concerning was the lack of obvious mention, in any of the sources perused, of any events to attend in Kunming on World AIDS Day.

When one interview participant was asked why this was the case they commented that events had been very 'low key' for that year (2013) (Chen, personal communication, October 2013). They volunteered the information that all major INGOs had recently withdrawn or were in

the process of withdrawing from China (with the exception of the Gates Foundation which is still currently supporting at least one NGO employing one of the interview participants). As a result of this withdrawal and passing off of the financial burden to the PRC a funding freeze had been instigated while extensive research was done on the best allocation of funds. As such, it is possible that the withdrawal of major HIV/AIDS INGOs from China and the PRC's subsequent freeze on funds may have contributed to the lack of HIV/AIDS education and awareness events in Kunming.

While the majority of this field research took place from October 2013 to December 2013, a follow up visit to Kunming took place in July of 2014 and one of the interview respondents Chen (none of the other respondents indicated a willingness for further contact) was re-interviewed. Chen revealed that the 2014/2015 funding year, budget figures for HIV/AIDS expenditure for the entire Yunnan Province was released the day before the interview. It totaled 5 million yuan or, as he stressed, 1 million Australian dollars. When asked if he thought this was sufficient Chen (personal communication, July 2014) replied, "Of course not. But in China we can do a lot with a little bit of money". Chen further stated that the allocation of these funds was for the entirety of HIV/AIDS services and that of the amount allocated, 35 percent of that amount would be used for NGO wages and other running costs. In real terms then, only 65 percent of the fund were available for programming activities.

Chen went on to state that in the entire province of Yunnan there were only a handful, less than six, full-time HIV/AIDS NGOs in operation. In practice, NGOs formed or disbanded as funding became available. Since there is no ongoing funding they must apply for funding grants for specific HIV/AIDS initiatives and when the money ran out they were forced to close their doors. Even though Chen worked in one of the full-time NGOs he stated that it was still necessary to apply for further funding from INGOs and other donors to maintain existing projects. He ended the interview on a positive note stating that although there had been some challenges, including a lack of funding, a lot of good work had been done in the six months between interviews. This included, working to set up a permanent camp for homeless PWID, several initiatives with Myanmar cross-border PLWHA and support for programs in refugee camps along the China/Myanmar border.

In order to test the veracity of the information provided by Chen (personal communication, July 2014) information was sought from members of the China CDC. This took place at the

AIDS 2014 conference in Melbourne, where there were several members of China's CDC in attendance. When questioned about the five million yuan figure they were unwilling to make a comment except to say that it seemed low and therefore could not be correct. However, they did confirm Chen's statement that NGOs sought extra funding from sources other than the PRC. Additionally, although they declined to produce any data in support of their argument against the information provided by Chen, they were particularly concerned that the figure of 5 million yuan not be disseminated. They were also keen to find out the name of my source and seemed to be unimpressed when that information was not forthcoming. Thus it is apparent that the PRC is still reluctant to be open and forthcoming concerning the exact nature of the HIV/AIDS operational environment in China.

### **Current operational environment**

NGOs interviewed at the time of this research were taking a very pragmatic approach to the use of current funds in the hopes of continuing their programs until the government funding was released.<sup>24</sup> Indeed, Wang (personal communication, October 2013) stated that in his opinion quite a number of CBOs and NGOs would be unable to survive the transition from receiving INGO funds to being mainly government funded. However, there was no real unanimity on whether this was a totally negative course of events. Wu (personal communication, November 2013) commented:

The question about NGOs and CBOs should not be about whether there are enough of them or if they have enough money but rather whether they are valuable and if not they should close down and make the money they have available to others that are making an impact.

It seems clear that a complete overhaul of the organisations currently working on HIV/AIDS in China is underway. Whether this ultimately translates into a more streamlined but efficient NGO/CBOs engagement, or whether it opens up the door to greater shortfalls and lack of programming, remains to be seen.

Consideration of the current NGO/CBOs participation reveals that the majority are working in the area of policy implementation and overarching programs such as MMT and needle exchange, ART and condom distribution to FSWs and migrant workers. Of the organisations where it was possible to recruit interview participants none of them were extensively involved in assisting clients with employment, training, housing or advocacy. They did

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<sup>24</sup> On page 154, see information concerning July 2014 follow up interview with Chen.

provide some food, clothing and shelter particularly for homeless IDUs and FSWs. While free programs such as MMT, ART and condom distribution do uphold some of the human security needs of PLWHA they fall short of addressing many of their essential requirements.

This is particularly so in the public health model of TasP currently preferred in China. TasP is focused more on protecting the general population by getting HIV+ individuals on ART than meeting the societal needs of key populations. Policy occurs as a top down initiative and the PRC have little control about how this is implemented at ground level. As such these initiatives often face problems in community settings. For example, the PRC is committed to initiatives such as MMT and needle exchange but at the local level they are often unwanted and communities react negatively. These problems in a community setting only exacerbate issues of stigma and marginalisation.

This partially stems from China's division of labour allocation and current conceptualisation of HIV/AIDS as mainly occurring in key populations comprising the more undesirable segments of the community (Ding, Li, Ji, 2011; Yang, Kleinman, 2008). Understandably, the police are concerned with protecting the public from criminal elements within the community. Thus for many of these officers the main focus of their interactions with PWID and FSWs is to remove them from public spaces. With police being responsible for issues concerning FSWs and PWID these cohorts often find out their HIV status through compulsory testing upon arrest and incarceration in detention centres (Wu, personal communication, November 2013). However, this has the knock-on effect of diminishing the efficacy of HIV/AIDS prevention efforts, as key populations are reluctant to attend clinics or other programs for fear of the police.

One NGO reported that there were still problems with the operating environment and that on the day following outreach events FSWs in attendance had been arrested by police (Wu, personal communication, 2013). Wu further commented, "...it creates a lack of trust between FSWs and the organisations trying to provide assistance". As such, interviews with organisations on the ground have confirmed the need for education of law enforcement agencies to better deal with high-risk individuals engaging in illegal activities (Philbin & Zhang, 2010).

During interviews in both Ruili and Kunming participants commented that their outreach services and drop in centres were not routinely attended due to the fear of arrest. The fear of arrest and incarceration still acts as a deterrent for those wishing to access service organisations and medical interventions. Wang (personal communication, December 2013) stated, “Sometimes police need to meet targets and so will arrest PWID and FSWs to meet those targets”. Interestingly, this scenario does not appear to be comprehensive as one CBO working with PWID commented that the police were aware of their drop in centre and while not actually supporting their efforts, did nothing to hinder their activities.

The effect of hard line policing of key populations has proven to be detrimental in addressing HIV/AIDS epidemics. Without addressing the fundamental needs and human security threats of these populations a sustainable response to HIV/AIDS will be impossible. Punitive legislation and policing practices should be revised where practicable to allow for meaningful engagement of key populations (WHO, 2014). Not only does hard line policing create a climate of fear but it also adds to the stigma experienced by key populations as it reinforces the stereotype that they are bad people. In short, while some policing is of course necessary, the types of results stemming from *strike hard* campaigns are of little help.

Significantly, the PRC has made some very encouraging steps towards addressing the needs of highly mobile PLWHA and there are now some services addressing their mobility and reluctance to publicise their HIV+ status. In Yunnan they have begun using a new rapid test. Whereas the time from testing to notification of HIV status formerly took weeks, individuals are now able to find out their status almost immediately. In Dehong prefecture the period of time from testing to treatment can now be completed in ten days (Wu, personal communication, November 2013). This is having a positive impact on drop-out rates as individuals are able to receive their results before moving on. In saying that, there are some issues still to be resolved concerning the rapid tests returning false positives (Wu, personal communication, November, 2013). However, regardless of temporary technical issues, this is a positive contribution to the existing interventions.

Another positive policy change for highly mobile populations concerns universal access for treatment for PLWHA. Whereas for most individuals the *hukou* system requires them to obtain medical treatment in their registered *hukou* the situation has recently changed for PLWHA. HIV+ individuals are now able to access services such as ART in any *hukou* in

China. This is an extremely important initiative when considering the high mobility of high-risk individuals such as migrants, FSWs and PWID who are often outside their *hukou* and therefore previously required to return home for treatment. It is a relatively new initiative by the PRC to address the expanding HIV/AIDS epidemic and does make a positive contribution to the human security of PLWHA. At the time of this research there were no English academic papers discussing the initiative.

Already in Yunnan PLWHA are able to access a range of free services but now, if they are HIV+, they are able to access these services anywhere in China. Moreover, they are able to access this treatment without the need to identify as FSW, PWID or MSM. This is an initiative that covers all provinces. Wu (personal communication, November 2013) commented that HIV+ individuals are given a type of universal medical code, or for the purposes of this thesis unicode, that allows them to access ART treatment in any province. However, this is only available for people who have already tested as HIV+. Their status must be established through the usual testing methods.

The old policy of only being able to access treatment within an individual's *hukou* made it extremely difficult for highly mobile PLWHA to maintain ART regimes. In spite of this positive advancement, there was no mention of the unicode being applicable in cases of opportunistic infections (OI). In Yunnan, treatment for OI is free as is the testing but Chen (personal communication, November 2013) stated that this was only accessible in Yunnan. As such, it seems clear that this is not covered by the unicode. Whether this is a detrimental oversight for the policy is unknown and further research would be beneficial in understanding the full ramifications of the unicode and any current shortfalls in the policy.

Moreover, while this new policy will undoubtedly prove to be extremely beneficial for China's continuing efforts to manage HIV/AIDS, many of those who need the unicode do not know that it exists. The information regarding these new rules has not successfully been disseminated and as a result many highly mobile PLWHA are still unaware that they can access treatment in any province. As such, if they are unable to access services through their *hukou* many people, particularly those who are highly mobile and/or involved in illegal activity, do not access services at all. One of requirements of the ART is the need for PLWHA to attend clinics to receive their drug regimes; as already stated, this has proven

difficult for highly mobile populations. The unicode addresses this issue and has the potential to significantly assist mobile PLWHA in China.

In order to successfully address the needs for highly mobile PLWHA to access ART regimes outside of their *hukou* the PRC must increase their efforts to make the information regarding the unicode more widely available. This represents a shortfall in an otherwise positive contribution to the current situation for PLWHA in China. Although ART regimes must still be administered in government run facilities (with the inherent fear of stigmatisation as already discussed) the considerable financial benefits to vulnerable populations able to utilise the unicode make undergoing ART a more affordable proposition.

### **TasP in China: Challenges and shortfalls**

Information provided by Chen (personal communication, December 2013) confirms that ART is available to everyone who is HIV+ after they have gone through testing and compulsory counselling (Zhang, Hsu et al., 2006). This counselling takes the form of three to four visits to a doctor approved to administer ART. The first session is generally used in dealing with the shock an individual feels upon learning of the HIV+ status. The next few sessions are spent in discussion as patients struggle to come to terms with the fact that they will need to take this medication at 11am, every day, for the rest of their lives.

The margin for non-compliance in their daily drug-taking program is very small. Chen, (personal communication, December 2013) conveyed that if a PLWHA misses three doses their entire ART regime may be rendered useless and they may develop drug resistance. Further, this is a serious and ongoing problem for PWID as they often forget to take medications at 11am due to being under the influence of other drugs, or simply not getting out of bed on time (Chen, personal communication, December, 2013). As a result of this PWID have a high drop off rate and currently less than 30 percent of all HIV+ PWID are on ART. Moreover, there is a high drug resistance in this group of PLWHA (Chen, personal communication, July 2014). In seeking to corroborate Chen, Moro (personal communication, 21 May 2016) agreed with Chen's assessment that the margin for non-compliance was small but reported that it was weeks rather than days before negative outcomes resulted. Moro also suggested that the 11am time frame being used was a matter of maintenance and scheduling rather than necessity.

Further, the first three to six months on ART are extremely difficult for patients due to brutal drug side effects (Gill, 2006). Chen (personal communication, November 2013) commented that there are a great many of them and that a large number of people stop therapy because they are unable to cope with the side effects. Of those undertaking ART a number get sick and actually die from taking the drug cocktail. Although side effects generally diminish within the three to six month time period this initial phase, coupled with the knowledge that this is a lifetime commitment is often overwhelming for many. Chen (personal communication, November 2013) states, “For some it is too much”.

This becomes very problematic within the national PRC TasP policy paradigm. As such, doctors are encouraged or even pressured to get people on ART and maintain this for their lifetimes. This means that doctors are invested in ensuring that PLWHA begin and then continue therapy and as a result doctors continue to encourage and counsel patients towards an ART regime (Chen, personal communication, December 2013). Additionally, the majority of PRC funding is channelled into this policy rather than other prevention programs. Chen (personal communication, December 2013) who in addition to working for a HIV/AIDS NGO is also a practicing medical doctor commented: “...the medicine itself is not enough. If they have poor nutrition in the first three to six months they can actually get sick and die from taking the therapy”.

Chen went on to comment that while the blood tests to ascertain HIV status are free the requisite kidney and liver function tests are not. These tests are required regularly (every six to twelve months) for the remainder of the patient’s life. However, in Chen’s (personal communication, December 2013) opinion, one of the greatest barriers to PLWHA receiving treatment is transportation costs:

...treatment and testing are free. The worst problem is transportation – each county has only one hospital that will distribute ARV meds. Not only that but if the hospital is far away they may need to stay overnight. This is complicated as they lose one or two days of income as well as having to pay for transport and accommodation – too expensive for many.

Unfortunately, problems due to lack of willingness to participate made it difficult to establish whether any NGOs exclusively addressed these needs or the full extent towards which the human security of PLWHA is considered at a grassroots level. However, one interviewee made mention of some programs that assisted in the distribution of food and clothing; the

re-training of PWID; the provision of small micro-finance type loans in order to set up small business; and organisations involved in teaching handicrafts.

Thus, it is safe to assume that such programs do exist but it is not possible to comment on the extent or efficacy of these programs due to the time constraints of this thesis. Though, when asked, Chen (personal communication, July 2014) commented that these were smaller organisations that were mostly urban based and that while they were making a positive contribution they were limited in scope. As such, this could be one area where HIV/AIDS programming in China could be improved upon, particularly the case in highly mobile at-risk populations whose members may be unemployed and living in conditions of poverty.

In the border areas of Yunnan, and in Kunming itself, there are a number of NGOs and CBOs working with the highly mobile and marginalised populations. Indeed, most of the organisations where interviews were conducted are involved in various facets of the delivery of HIV/AIDS programming to marginalised people groups. One program was rarely involved in any one aspect of education and programming. Additionally, those programs that are in operation such as MMT, PWID and FSW outreach and drop-in services, condom distribution are plagued by difficulties such as lack of funding, community opposition and issues with law enforcement agencies.

The majority of this field research took place in Kunming and Ruili. The reason for this is that Kunming is the Capital city in the Yunnan province and Ruili remains at the epicentre of the HIV/AIDS epidemic in China (Chen, personal communication, December 2013). Much of the HIV/AIDS programming is run from Kunming and it is home to the larger NGOs engaged in assisting CBOs both in the local and international border areas. Moreover, the majority of interviews undertaken took place in this city. One of the reasons for this is that Kunming is a destination city for illegal migrants, whether internal economic migrants or those who have crossed international borders. It also has large, highly mobile FSW, PWID and MSM populations. The next section of the chapter discusses the information provided by interview participants regarding the three cohorts of this thesis and HIV/AIDS in Yunnan in general.

## **Thesis cohorts**

### **FSWs**

In Yunnan, there is no one particular red light area where sex workers congregate. Instead, they are spread throughout the city. Many of them are only contactable via telephone or the Internet. As such it is difficult to estimate the exact numbers operating within Yunnan. Moreover, there is no way that outreach workers are able to provide services from a particular location. Wang (personal communication, October 2013) remarked:

For low-level FSWs in general it is difficult to deliver programs as they are spread out rather than working in one area. It takes time to go from place to place as well as money and as such it [sic] not achievable or practical.

Additionally, Wang disclosed that there were very few CBOs actually dealing with lower level sex workers. He states:

There is a real gap in coverage for those populations and more research needs to be done in these areas in order to find out how best to target these difficult to reach low-level populations. The government only supports programs focusing on the higher level, easy access populations.

While there are some drop-in centres that do include lower level FSWs in their clientele, they more closely resembled offices where condoms may be collected and where services can be obtained if desired. Sex workers do not assemble in these locations as they are often afraid the police will have them under surveillance and that they will be arrested when they leave. As a result of this difficulty in accessing FSW populations there are no simple ways to ensure that education and prevention programs are reaching the targeted populations with the levels of saturation needed to ensure significant changes in behaviour.

Furthermore, when FSWs are contacted there are problems communicating between individuals. Throughout Yunnan, which is home to twenty-five minority nationality groups (accounting for 33.4 percent of Yunnan's entire population of 43 million people) and people from neighbouring states that have crossed the border (Lu et al., 2008). Language barriers complicate matters further as communication with FSWs, and other at-risk groups, in their ethnic language is an enduring problem due to lack of available translators. For those few in the ethnic minorities that do speak some Mandarin Chinese there is the possibility that information and understanding may be lost in translation due to a lack of fluency. Moreover, there may often be a discrepancy in the usage and meaning attributed to the words and

concepts being presented. What one party understands may be completely misunderstood by the other regardless of their ability to use the same words.

This becomes even more of an issue when the concepts being discussed are complex. Explanations concerning prevention methods, educational material and medical concepts revolving around ART regimes are paramount and yet difficult to convey without language fluency. Han Chinese speakers almost exclusively staff the majority of NGOs and CBOs, and while a number of them are able to speak reasonable English, they are generally unable to speak any of the ethnic languages of the region with any fluency. In addition to which, there seemed to be very little information concerning HIV/AIDS available in any of the minority languages. There is little doubt that in Yunnan HIV/AIDS outreaches and education and prevention programs are being hampered by these difficulties in communication.

This is certainly the case in Ruili where there are high numbers of FSWs from Myanmar and rural ethnic areas of Yunnan. Many of these sex workers are young women who have crossed the porous international border between Ruili and Muse. They are poor, uneducated and often as young as 15 years old (Chen, personal communication, December 2013). There are no real outreaches for these young women and no drop in centres in the areas where they live and work. Moreover, there are difficulties in communicating with these FSWs, as the majority of them do not speak Chinese or even Burmese. As a result, because of the vast numbers of minority groups in the border areas near Ruili quite often three or four languages may be represented, making it very difficult for HIV/AIDS prevention programs to meet their needs linguistically.

This complicates the situation in more than one way as even if they were inclined to seek help (which in general they are not due to their illegality) they are unable to clearly express their concerns. As such, due to these communication problems; the illegal nature of their profession; and their status as an illegal alien in China they remain elusive and do not seek the services of medical professionals. They are also reticent in attending outreach services; which makes it difficult for service providers to deliver efficient and worthwhile programs and services. Indeed, due to these difficulties, it is unclear whether these FSWs have any real understanding or even knowledge of HIV/AIDS and the need to use condoms to protect themselves and their clients. Additionally, there is no clear data on how many FSWs are operating in these areas or indeed the percentage of these FSWs who may be HIV+.

One CBO based in Ruili involved in outreach to FSWs also provided some education to the clients of FSWs through the delivery of education programs to migrant construction workers (which will be discussed in more depth in a later section of this chapter). Additionally, this CBO visited villages and provided educational information to women and children before they became involved in sex work. Children of HIV+ individuals were also provided fun programs and support networks by this CBO.

Zhao (personal communication, December 2013) oversees these programs and commented that although their centre operated as an outreach drop in centre, in reality, very few clients ever came to the premises. Rather, a small number of FSWs act as intermediaries, visiting the centre each evening to collect a large number of condoms, which they then distribute among their peer networks. This was also true of education programs targeting FSWs. As a result, it was often difficult to ascertain the efficacy of the outreach efforts provided by the CBO. There is no direct empirical evidence being returned about the impact of these services on the levels of increasing HIV/AIDS understanding and awareness for instance, as is it the peers who do access the services who are relied upon to disseminate the information provided by the CBO. Significantly, the organisation was overall positive that they were having a tangible, if difficult to measure, impact in addressing some of the higher risk behaviours of FSWs and their clients.

Unfortunately, there are still high-risk behaviours that the organisation has had little success in influencing, largely because they are steeped in cultural or superstitious reasoning. For example, Zhao commented that one very real issue his organisation faced was the belief that sex workers could not turn away the first client of the day, regardless of concerns they may have about the client. This is due to the belief held by many FSWs that if they declined the first client then they would have an unsuccessful day/evening of work. Therefore, if the client insisted on not using a condom the FSWs felt compelled to agree to these terms, despite knowledge of the role of 100 percent condom use in preventing HIV transmission. Indeed, this first client has an inordinate amount of power in shaping the sexual interaction and indicates that it is essential to increase efforts to provide HIV/AIDS programs to the clients of FSWs. Zhao further indicated that there were difficulties in convincing FSWs to use condoms in both commercial and private sexual encounters.

Even when FSWs adopt a 100 percent condom use approach to all commercial sexual exchanges, they do not adopt the same approach to their private sexual encounters, thereby increasing their vulnerability to HIV transmission. In addition to this, many FSWs had difficulty understanding that their personal sexual partners may themselves be HIV+ and they should therefore employ 100 percent condom usage in their private sexual interactions as well as their commercial sexual exchanges (Ding et al., 2014). The absolute necessity of the need for condom use in these private sexual exchanges is clearly demonstrated when one considers that these partners themselves have multiple sexual partners and engage in high-risk behaviours including intravenous drug use.

Additionally, some FSWs believe that the use of condoms with their regular partners may create a barrier to intimacy or be viewed as mistrust in their partner (Ulibarri et al., 2014). Therefore, they pose very serious risks to the HIV status of their partners. One of the ways that FSWs distinguished between their regular partners and clients was through the use of condoms (Ulibarri et al., 2014), demonstrating that their HIV knowledge remained focused on 'illicit' sex, that is, commercial sexual exchange, rather than all sexual encounters, both commercial and private.

Primary research with an FSW advocacy worker and current FSW from Myanmar who was in attendance at AIDS 2014 conference in Melbourne shed further light on the situation. Her anonymity was assured and due to her situation as an advocacy worker and presence at the AIDS 2014 conference for the specific purpose of providing information concerning FSWs in Myanmar it was established that there were no fears concerning her safety or vulnerability as a FSW. For the sake of anonymity a pseudonym, Lily, has been allocated to her. In her interview Lily (personal communication, July 2014) ascertained that she had worked on the Chinese side of the border as a sex worker. Moreover, in her role as a FSW advocate she had been given the opportunity to work with many other sex workers both inside Myanmar and along the China/Myanmar border. She suggested that eventually, many of the Myanmar sex workers end up working along the border areas as they feel convinced that there are more opportunities for work. When asked about condom usage and whether FSWs were given adequate supplies Lily responded by recounting an incidence that happened within Myanmar. She said that there was a problem, particularly in the more remote areas of Myanmar, and that NGO workers exhibited stigmatising attitudes towards FSWs. In the incident she recounted that a NGO worker tasked with delivering a supply of condoms to FSWs had simply left the

supply in the room of the hotel where they had been staying and then left. This meant that the FSWs had to negotiate with the hotel staff in order to obtain the supplies. Lily expressed a great deal of anger at this situation and added that in addition to the supplies being abandon there were not enough condoms to meet the needs to the FSWs in the town.

Lily provided information that suggests that the regular allocation of condoms per FSW for that area was sixty over a three-month period. That allows for 100 percent condom use for less than one client per day over that time frame. If the FSWs had numerous clients in a month their supplies would last less than one month. She did report that the situation was better in more urban areas. Anecdotally then, there seems evidence to suggest that even when condoms are supplied to FSWs there is an alarming deficit. This does not diminish the need for FSWs to be proactive in securing their own health and undertaking some measure to procure condoms for themselves. However, it does reveal a shortfall in current condom supplies administered by HIV/AIDS prevention programs.

There are also still a number of FSWs who are willing to forgo condom usage when the client offers more money for the transaction. One of the reasons for this is that they still have a poor knowledge or understanding of STIs including HIV (Zhu et al., 2012). One study, found that there were a number of significant reasons why FSWs still opted not to use condoms in commercial sexual encounters (Jie et al., 2012). Firstly, those who do not use condoms are generally younger, have more customers per day and tend to have lower levels of education. Secondly, the prevailing climate of the sex venue (or lack of venue) and social support were key determinants. Additionally, they were willing to believe that men were safe based on their word and on their own observations as to their cleanliness, stereotypes and the overall appearance of clients. Lastly, their occupation required them to make money and please the client, therefore if the client did not want to use a condom, and was willing to pay more (some customers pay twice as much) then it was seen as acceptable (Jie et al., 2012). There are obviously still significant shortfalls in programs educating FSWs about the need for condoms.

Furthermore, there is an emerging HIV/AIDS problem among elderly men in China (those over the age of 50) who are contracting the disease through frequenting low-level FSWs (Wu, personal communication, November 2013). The men find it difficult to use condoms due to flaccid erections and the FSWs are ill equipped to cope with this. As a result, peer education

initiatives are now in progress in order to teach FSWs ways to please their clients without having to use condoms. They are also teaching FSWs how to use female condoms without the undesirable side effects such as excessive noise (Wu, personal communication, November, 2013). Zhao provided anecdotal evidence to suggest that these initiatives were somewhat successful even though there were still difficulties. When introduced correctly the female condom could make a positive contribution to condom usage rates for FSWs (Liao et al., 2011). This situation is an ongoing and relatively new phenomenon and as a result there is very little conclusive data concerning its success in ensuring 100 percent condom usage.

Another situation that appears to be emerging in the context of FSWs, and represents new information in the context of this thesis, is the push for FSWs to induce clients to take drugs during sexual encounters (Lily, personal communication, July 2014). This is specifically the case along the China/Myanmar border areas. In interviewing Lily, she revealed that in sex worker establishments on both the Chinese and Myanmar side of the border, sex workers are compelled to push drugs on their customers. Indeed, it was revealed that when they fail to do so they are given a monetary fine by the brothel. When asked what kinds of drugs were being pushed Lily stated that in general they were using synthetic drugs such as methamphetamine and amphetamine-type stimulants such as ecstasy and ketamine. She reported that coerced injection drug use was not probable. The FSWs were also expected to use the drugs along with the customers. This is an alarming trend considering the established research linking drug use with high-risk behaviours (Yao et al., 2012). Significantly, this is a unique and specific finding of this thesis, which is an original contribution to the knowledge and should be pursued by the academic community.

Notably, Chen (personal communication, December 2013) stated that there was very little understanding of the scope of the problem for FSWs in Ruili, and indeed in China in general, due to lack of research in this area. He further commented that within the city of Ruili there were only three CBOs involved in outreach to sex workers. As a result, during this research in China, it was only possible to undertake an informal interview with one of the workers, in one of the organisations. Added to which, the scope of services to FSWs was limited, not only by lack of funding but also due to some of the issues raised above. This is particularly concerning since the main clientele of FSWs in these research sites were highly mobile long

distance truck drivers. This makes the existing truck driver drop in centre a valuable continuing initiative.<sup>25</sup>

The impact of long distance truck drivers on HIV/AIDS epidemics on the Yunnan/Myanmar border confirms the established literature concerning the global impact of long distance truck drivers in the spread of HIV (Oluwoye, 2007; Zhang et al., 2013). While there is little data concerning their influence in the HIV epidemic in Yunnan there is ample evidence linking them to the spread of HIV in other epidemics. Some of the reasons for this include extensive time away from family support networks, frequent encounters with FSWs, drug taking, and low levels of condom use with partners and FSWs (Apostolopoulos, Sönmez & Massengale, 2012; Sumola, 2005; Zhang et al., 2013). High-risk behaviours, when combined with their ability to introduce HIV long distances into new locations along trucking routes make long distance truck drivers a serious threat to the spread of HIV.

While the long distance truck drivers on the Yunnan/Myanmar border are not a focus of this thesis further research should be undertaken to fully understand their bearing on China's HIV/AIDS epidemics. Issues of high mobility; lack of community connection; the need to sleep in their trucks at loading sites; and low incomes contribute to a lack of human security in these cohorts. Their high-risk behaviours have a direct correlation to the situation faced by FSWs and contribute to bridging scenarios for HIV passing into the general population. Further such research will contribute significantly to existing scholarship and add to the understanding of China's HIV/AIDS epidemics.

## **PWID**

In Yunnan, many of the same problems associated with accessing FSW populations remain true for IDUs. They are very wary of those not already forming a part of their circle of known associates. There is an extremely high level of stigma attached to this cohort of individuals. This is particularly the case when they have tested HIV+. There are few opportunities for employment and those who are employed before ascertaining their HIV status often find themselves unable to work in their previous occupations due to people's aversion to them as HIV+ individuals. In short, they were no longer considered acceptable as members of the general community. Additionally, while many PWID access MMT programs there are still a

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<sup>25</sup> Further information concerning this drop in centre follows in a later section of this chapter.

number of those individuals also continuing to use injection drugs such as heroin; meaning their risk factor to HIV transmission remains the same, it does not decline. This seems to be the case in most locations throughout Yunnan and certainly in the locations accessed during this research.

Having observed a number of micro-financing interviews for families impacted by HIV/AIDS and drug use it seemed that their stories resonated throughout the community. While they had been previously employed in so called 'reputable employment', prior to contracting HIV, after becoming HIV+ they were unable to maintain their positions either through dismissal or, in the case of self-employed individuals, because customers no longer frequented their business. For example: one woman had previously operated a business selling noodles but customers shunned her business upon her HIV+ status becoming public knowledge. For some women, who were responsible for the family income, their only recourse was to turn to sex work.<sup>26</sup> As a result of this, many families visited were living in situations of extreme poverty and facing severe food insecurity.

In one example, a HIV+ PWID had inherited a sizeable home from her deceased parents. While this might have been rented out in other circumstances she lived there alone (her sister who had also been a PWID had recently died from AIDS related causes) as no one was prepared to rent a room from her. Her circumstances were dire as even though she had a prospective source of income she was unable to access its potential. Indeed, rather than being a positive it was problematic as she was unable to afford the upkeep and it was deteriorating around her. At the time of the visit to meet her, she was eating one small meal a day and had turned to low-level sex work in order to survive. Her story is representative of all 7 interviews that were undertaken with vulnerable families on the day.

In Ruili, another CBO working with PWID had a range of services on offer that extended beyond their main cohort to include FSWs and family members living with PWID. As well as this they provided HIV blood testing, food, basic medical treatment and essential supplies to homeless PWID who had temporary camps around the city of Ruili. In fact, they commented that 85 percent of their service outreach was to homeless PWID and their families. They

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<sup>26</sup> These observations concern FSWs as male sex workers are outside the scope of this thesis. Nevertheless it is an area that would benefit from further research.

understood the need to deal with individuals holistically, in order to make any real impact in their lives.

For outreach interventions to have a long-term positive impact on the lives of PWID it is necessary that they have shelter and good nutrition. Addressing these basic needs means that they resist the desire for excessive mobility (almost nightly in many cases) and their accessibility and therefore health outcomes are improved. Additionally, the brutal toll on the body of those on ART medications means that good nutrition is essential (Chen, personal communication, December 2013). Thus, addressing these human security needs allows for continued patient follow up and increased retention rates for those undertaking ART.

The organisation commented that many of its clients were illegal Myanmar nationals who had crossed the border between Ruili and Muse. As such their outreach programs for PWID did not distinguish between Chinese and Myanmar nationals. Countless numbers of the PWID receiving services from this organisation were suffering from lack of nutrition, illnesses and suppurating sores at needle injection sites on their bodies. As is common with many of the highly mobile PWID and FSWs addressed in this thesis, they were also loath to seek official help in any form. The organisations visited provided services for each individual regardless of existing official policy stating that only Chinese nationals are eligible for services and treatment. Many Chinese officials in Ruili and other parts of China are aware of these activities and supportive of CBOs providing these services to nationals of the surrounding states who are residing in China. While this does not infer that the PRC as a whole or the officers as individuals are supportive of a human security approach it does provide scope for NGOs and CBOs to implement services that may mitigate some of the human (in)security prevalent among these populations.

This organisation was also involved in a Naloxone Hydrochloride (Naloxone) peer program that involved training up peers to be able to administer the drug in cases of overdose. Naloxone works in overdose situations by blocking opioids like heroin and methadone from attaching to the opioid receptors in the brain (Australian Drug Foundation, 2015). As such it reverses the overdose symptoms. In general, this peer outreach program works by training up peers to provide immediate response to members of their peer network. They are then provided with a number of doses of Naloxone. They commit to being available 24 hours a day, seven days a week. They provide PWID in their network with a mobile phone number

that they call in case of accidental overdose. The peer is then able to attend to the overdose victim by administering Naloxone. This is an essential service, as many PWID will not seek out medical interventions due to fear of arrest. The organisation involved with this outreach estimated that a number of individuals had been successfully revived due to this intervention.

In terms of human security this is a positive initiative as it lessens stigma (by using peer outreach); strengthens community linkages (by developing relationships within the cohorts); and addresses the fundamental need for these groups to have access to medical services (in this case life-saving medicines in case of overdose). These services are offered irrespective of nationality or financial considerations. The individual needing the service is the main referent being considered in this bottom up approach to addressing the health needs of PWID as key populations in HIV/AIDS epidemics.

## **Migrants**

In Yunnan there are large numbers of migrants. It is both a high destination province and a source province for migrants both from other areas and across international borders. While many of these migrants are engaging in legitimate, legal enterprises there are many who are in China illegally, and engaged in illegal HIV/AIDS high-risk behaviours. FSWs and PWID populations can be considered 'migrant' in their high mobility but for the purposes of this field research they are categorised differently from economic migrants who are engaged in 'legitimate' employment endeavours. As previously mentioned in this thesis, often the economic migrants in Yunnan turn to drug use or become clients of FSWs.

One interviewee delivering outreach programs to migrant construction and factory workers works in conjunction with organisations, such as the All-China Women's Federation and China's construction authorising body, to present mandatory HIV/AIDS education and prevention programs. In addition they provide these groups with free condoms and lubricants. In combination with other mobile businessmen and workers the floating migrants generally form a large percentage of the clients of FSWs. The groups are extremely important vectors for the expansion of HIV/AIDS in China and thus are a non-traditional security threat.

Zhao (personal communication, December 2013) remarked that these migrants relocated every three months so it was difficult to ascertain how much of the knowledge gained

through these education programs is acted upon in a long-term manner. However, they are able to receive some immediate feedback concerning the efficacy of these programs. They administer an end of course test that provides a reasonable, if incomplete, picture of levels of migrant workers understanding. They also monitor numbers of condoms accessed by these clients. There is also anecdotal evidence from FSWs to suggest that migrant workers who have been through these programs have increased their rates of condom usage. Conversely, the dearth of empirical evidence does not allow for confirmation that the programs are being delivered in the best possible manner or the long-term behavioural changes that may ensue.

The clients of FSWs in general, and particularly labour migrants, are an under researched vector for HIV/AIDS transmission in China. Within these migrant communities, issues of stigma towards individuals with STIs and PLWHA create barriers that prevent migrants from initiating self-protection activities such as HIV and STI testing and communication with partners concerning positive diagnosis (Mendelsohn et al., 2015). Therefore, outreach and education programs for the current 250 million of migrants, whether in the work place or in drop in centres, should be increased in order to maximize coverage for these populations. Field research revealed that there is still a dearth of such programming in China. The lack of information available is an unequivocal human security risk as high-risk behaviours continue to threaten both individual security as well as the security of the nation-state.

This is particularly germane in the case of long distance truck drivers crossing international borders between Myanmar and China; Vietnam and China; and Laos and China. High levels of boredom, language barriers and a lack of finances make these economic migrants especially vulnerable as research confirms that they are more likely to engage in high-risk behaviours. The opportunity to make observations at a truck driver outreach centre in Ruili formed a valuable part of this research and in this section the commentary concerns those truck drivers crossing from Myanmar. Consideration of these truck drivers is exceptionally apropos for this thesis considering the general ignorance concerning HIV/AIDS predominant in Myanmar.<sup>27</sup>

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<sup>27</sup> One of this researchers interview participants (a medical doctor) commented that on a recent trip into Myanmar to meet with medical personnel, they were horrified to discover that the doctor they were liaising with had *never heard of HIV/AIDS* [emphasis mine]. Subsequently, upon testing the population of the prison that this doctor was overseeing they found a HIV prevalence rate exceeding 30 percent of the population (Chen, personal communication, December 2013).

In Ruili, at any one time, there are thousands of truck drivers from Myanmar. In general truck drivers crossing the border are required to offload their cargos and reload them onto Chinese trucks for the journey into China. The reverse exchange also operates in the same manner. In this way, foreign truck drivers do not drive in another nation-state. Due to this exchange, truck drivers are often required to wait in border areas for as long as three weeks before their loads are processed. They live in their truck during that time and service industries have set up around these encampments. In general, the truck drivers are poorly educated and have little to no understanding or knowledge of HIV/AIDS. Due to their high levels of boredom they are prone to seeking diversion with sex workers and other high-risk behaviours. As a result of their low incomes they are only able to frequent lower hierarchy FSWs who themselves have little understanding of issues surrounding HIV/AIDS. These FSWs operate from hairdressing and massage shopfronts in streets and alleys in the vicinity of the long distance truck driver encampments.

One recent study found that 5 percent of long distance truck drivers from Myanmar had sex with occasional sexual partners, including FSWs. Additionally, 7.1 percent reported that they did not use condoms during these encounters. A number of them were also found to be PWID (Zhou et al.). When assessing the HIV prevalence of these truck drivers it was reported to be as high as 3.5-8.8 percent (Zhou et al., 2014). Indeed the study further speculates that due to their ability to spread the HIV virus over long distances they may be implicated in the spread of HIV from Myanmar into China. The tendency for long distance truck drivers to exacerbate the spread of HIV in regional epidemics and the global pandemic as a whole has been confirmed in other research. Further to this, long distance truck drivers may also have played a significant role in the expansion of HIV subtype CRF01\_AE from heterosexuals to PWID (Zhou et al., 2014). While long distance truck drivers are not a focus of this thesis it seems that further research should be undertaken to understand their continued impact on the spread of HIV/AIDS cross-border between Myanmar and China.

As such, the truck driver drop in centre in Ruili provides a significant service to long distance truck drivers from Myanmar and may have significant implications in halting the spread of HIV in the region. Currently, they have a turnover of about 1000 truck drivers per month. The drop in centre is located at the hub of one of the main encampment areas for Myanmar truck drivers. They have an onsite manager who is able to speak fluently in both Mandarin

Chinese and Burmese. His role is to provide assistance to truck drivers seeking services or to simply be available for discussing issues of HIV and simple counselling services.

The centre also provides outreach services for HIV/AIDS education including condom distribution; referral to medical services for those seeking to become cognisant of their HIV status or who have tested HIV+; and they have a frequent (monthly) schedule of HIV information sessions. They also have HIV information posters on their walls in both Chinese and Burmese. One of the main services they provide is a meeting place for truck drivers to congregate to relieve their boredom while being educated about HIV/AIDS. The centre is set up with chairs and tables, so truck drivers can eat their meals and play games and chat with other drivers. They also have an area set aside where patrons can watch television and movies. This field research revealed this to be the only drop in centre of its kind in the entirety of Ruili. Considering the global research linking long distance truck drivers with the expansion of HIV this is a serious shortfall in the PRC's HIV/AIDS policy. Lack of information and services for long distance truck drivers increases the non-traditional security threat that they pose in HIV epidemics.

## **Conclusion**

The situation for HIV/AIDS in Yunnan is still one that has yet to be brought under control. HIV rates have continued to expand each year and in no part of the province (indeed China in general) are infection rates declining. There are many challenges concerning HIV/AIDS that make addressing the disease in Yunnan difficult. This field research has confirmed existing research and added new information concerning policy and the extent of HIV infection in Yunnan. The situation for highly mobile and marginalised populations remains precarious. Their elusiveness, fear of stigma and arrest and a generally insufficient number of CBOs and NGOs working with them on the ground mean that there are substantial shortfalls in both coverage and obtainability of programs.

Additionally, as shown, out of pocket treatment costs are prohibitive for most PLWHA. While there appears to be some positive changes in the requirements for migrants to be able to access ART; the financial burden of tests and counselling; travel to and from clinics; and continuing need for stability and regular attendance at government run hospitals and clinics creates issues for those needing to access therapy. Unless the PRC implements further cost

cutting initiatives for these groups, adherence to ART regimes and voluntary testing and treatment will become further complicated as the human (in)security of key populations continues to increase. In each area where human security is lacking there is a contemporaneous issue occurring. For example, lack of access to health care (through stigma or lack of financial accessibility) leads to poorer health and the inability to find employment. This often leads to social exclusion, depression, stigma, and further high-risk behaviours. This is a serious non-traditional security threat, particularly as the epidemic has now become sexually driven due to unsafe sexual practices and therefore has the scope to make debilitating inroads into the general population.

A solution for the spread of HIV/AIDS in FSW populations continues to elude the PRC's efforts. As a result, and as already discussed in this thesis, this has contributed to the generalisation of the epidemic within China. High-risk behaviours continue and an understanding of HIV/AIDS has failed to encourage FSWs to adapt their behaviours. Cultural belief and an everyday desire to treat their non-commercial partners differently from those they deal with as an occupation outweigh their current understandings of the devastating impact that HIV might have on their lives. FSWs are still neglecting to use condoms where commercial partners are willing to walk away or where they are willing to pay extra money. As well as this they are often disinclined to use condoms with their non-commercial partners.

This situation is one that is mirrored in the case of PWID populations. The situation for PWID in Yunnan is exacerbated by high availability of cheap drugs and very porous international borders. There are large numbers of homeless PWID living in a type of 'no-mans land' on either side of the international border between China and Myanmar. There are exemplary efforts by existing CBOs (such as those interviewed during field research) who provide NSPs, Naloxone, blood testing and general care and assistance to these highly mobile PWID. However, these programs are few and peer workers struggle to meet the demand. As a result there are many PWID ostracised by their communities and living in conditions threatening their human security on a daily basis. Many of them do not have access to employment; they do not have access to basic living conditions; or the food and nutritional requirements to survive the instigation and maintenance of ART. Already there is a high rate of drug resistance in this cohort and therefore starting the program and being unable to continue is worse for them, and for HIV/AIDS expanding profile as a non-traditional security threat, than not starting at all.

The situation for labour migrants is marginally better than that for FSWs and PWID due to their ability to find employment. Nonetheless, they are marginalised from the societies that they work within, move every three months or so and have relatively low incomes. Construction workers are provided with mandatory HIV/AIDS education and this seems an excellent step in the right direction for propagating the knowledge needed to avoid the potential pitfalls of high-risk behaviours. However, there is little empirical evidence to show whether this program is sufficient for the migrant workers. Although there is anecdotal evidence from FSWs to suggest that higher numbers are using condoms, there needs to be more research into this cohort's role as clients of FSWs.

As with construction and factory workers, long distance truck drivers engage in high-risk behaviours. Additionally, having an income does not preclude the possibility of poverty. Low incomes and living conditions where services remain unaffordable often mean that high-risk behaviours become acceptable. When this is coupled with boredom and inactivity then the situation is optimal for the spread of HIV. It is a well-known global phenomenon that HIV/AIDS travels like cargo along trucking routes throughout the world. This is certainly true of Yunnan and the cross border truck drivers from Myanmar. Thus the current shortfalls in the PRC's HIV/AIDS prevention and education programs directed towards these populations exacerbate HIV/AIDS as a non-traditional security threat.

While there are many excellent programs in operation within Yunnan, considering the scope of the problem they are inadequate to address the needs for prevention and education outreach. The overwhelming numbers of people in China add to the non-traditional threat of HIV/AIDS due to the current spread of HIV as a sexually driven epidemic. At a grassroots level individuals are experiencing a lack of human security due to lack of medical treatment; unemployment; stigma and being ostracised from community support; and a lack of nutritional requirements to optimally sustain ART regimes. Shortfalls in current programming mean that the inadequate coverage leaves key populations vulnerable and exposes the general population to the virus through these cohorts. While there are numbers of NGOs dealing with issues of HIV/AIDS in urban areas there are relatively few organisations in rural areas. The current climate in China for NGOs and the recent withdrawal of INGOs has added to the burden of those CBOs and NGOs that are still in operation creating even more shortfalls in coverage. Thus, there is insufficient infrastructure for the operation of

INGOs, NGOs and CBOs, which have been found to play an essential role in HIV/AIDS programs.

Significantly, considering that the necessary funding to maintain existing programs is in doubt, there is limited possibility that outreach services may be expanded in the future. Further, with the recent allocation of only 5 million for HIV/AIDS programs for the entire province of Yunnan it is probable that many of these programs will cease to operate. The PRC seems to be indicating that its commitment to halting the spread of HIV/AIDS is no longer a high priority. Without an expanded commitment to provide the funding and necessary services it seems probable that no real change can happen. Indeed, the previous forward momentum is likely to be negated and may result in worst-case scenarios concerning China's HIV/AIDS epidemic becoming reality. In a synergistic nexus China's reluctance to embrace HIV/AIDS as a human security threat for its individual citizens may be blinding it to the non-traditional threat it poses to the nation-state.

China's top down static hierarchy, which may work well in other community health scenarios, is ineffective for HIV/AIDS epidemics where the needs of the individual must be addressed to render effective change. While they have been making some significant steps in adopting GBPI in its HIV/AIDS epidemic lack of funding and their insistence in dealing with the problem as a public health issue can create a negative environment for meeting the human security needs of PLWHA. Indeed, the individual is a poor cousin in the fundamentally 'group think' of the public health model. The elusive, highly mobile, marginalised and stigmatised individual exists only as a problem to be solved. Added to which, a lack of significant and persistent research and provision of treatment and prevention initiatives hamper efforts to halt the continued spread of HIV throughout China. It is essential that they undertake further research within the cohorts presented in this thesis and expand upon efforts to include these populations in subsequent programming. Additionally, they must address the current shortfalls in HIV/AIDS education and prevention access; reassess the existing health policies with regards to user pay services supplementary to the free ART provided in the 'Four Frees and One Care' initiatives; and expand research to more clearly understand the impact of long distance truck drivers and labour migrants in HIV/AIDS epidemics. The field research has revealed that there is a significant lack of understanding as to the true nature of the epidemic in Yunnan and particularly in the Myanmar/China border areas.

## **Chapter Seven: Impacts of insecurity in HIV/AIDS epidemics**

*Remove the firewood from under the pot*

釜底抽薪

### **Introduction**

The securitisation of HIV/AIDS created a framework that attracted attention to the pervasive nature of the HIV/AIDS problem. Globally, nation-states began to take notice of the spread of HIV within their own borders. They also began to note that HIV/AIDS presents a non-traditional threat to security. It is a battle that cannot be fought with an army or in the halls of political power. It is an enemy that does not respect the sovereignty of nation-states or seek permission to cross national boundaries. HIV/AIDS must be managed in the global political sphere but the real battle takes place on an individual level. The human being must be the main referent object, the individuals contracting and transmitting the virus. Human security, rather than state security, must be ensured in order to make any lasting impact on the spread of the disease. Globally, research has shown that PLWHA and key populations face human insecurity on a daily basis.

‘Freedom from fear’ and ‘freedom from want’ are the overriding principles for human security. Individuals must be able to live their lives free from the fears that stigmatise and marginalise them and free from the wants that often drive them to behaviours that are high in risk. Economic, food, health, environmental, personal, community and political insecurity represent the seven areas that influence the behaviours of individuals and the outcomes of political initiatives in HIV/AIDS situations. Individuals are driven to do whatever is necessary to survive and the need to feel secure, find shelter and eat today outweigh the threat of disease that may or may not occur tomorrow. Therefore, this chapter now briefly considers each of these areas individually to better understand their securitisation and impacts for individuals in HIV/AIDS epidemics. While this thesis discusses the numerous advantages of ensuring that individuals obtain human security, this specific chapter looks at the negative consequences emanating from a lack of security or insecurity. Thus, human security and human insecurity are different focal points of the same topic. In concentrating on insecurity this chapter further highlights the imperative to ensure that key populations human security is paramount.

These insecurities do not exist independently of each other. They are ubiquitous, interweaved and often times manifest themselves as a web of connection (see page 7, Figure 1). Food insecurity can be the result of economic insecurity and economic insecurity may be the result of political or community insecurity. Thus, there is no single approach that is effective. Each area of human insecurity must be addressed in order to make an impact on the whole. Situations of food insecurity cannot be solved when economic insecurity continues. Any measures on that level will simply result in short term solutions. The individual may eat for a time but unless the underlying cause is addressed no sustainable change can occur resulting in a return to previous behaviours. That is not to say that benefits do not arise from short-term interventions that dispel human insecurity. When human insecurity is no longer present then human security is attained negating many of the unfavourable outcomes currently exacerbating HIV/AIDS epidemics. However, long-term and sustainable behavioural change leading to the reversing of HIV/AIDS epidemics cannot occur in situations of continuing human insecurity.

Significantly, different HIV/AIDS epidemics may have different human security threats undermining intervention efforts and driving high-risk behaviour. Further, one area of insecurity may intensify or cause insecurity in another area in a myriad of ways. For example, in situations of conflict the HIV/AIDS epidemics may be more driven by political instability leading to personal insecurity, homelessness, economic insecurity, food insecurity and an inability to access health care or educational programs. In other situations economic insecurity may drive the epidemics leading to labour migration, food insecurity, community insecurity, health and environmental insecurity. The insecurities that do seem consistent across all global HIV/AIDS epidemics are economic insecurity, food insecurity, health insecurity, personal insecurity and community insecurity. Regardless of why they have occurred (whether through environmental or political means) these insecurities have detrimental impacts on HIV/AIDS epidemics and epidemiology to varying degrees. In order to successfully mitigate these impacts human insecurity interventions must be generated at a macro level with policy frameworks that actively seek to address the reasons for the insecurity being encountered by individuals at a micro level.

Structural determinants affecting HIV/AIDS epidemics originate from a number of different areas from political and social situations (political and community insecurity); health related policy (health insecurity); economic factors (economic insecurity and food insecurity); the environment surrounding the individual on a personal, work, community and geographical level (with environmental insecurity leading to community disempowerment or unsafe work environments contributing to community and personal insecurity); and, cultural norms leading to stigma (community and personal insecurity) (Shannon et al., 2015). While all seven areas of human insecurity have impacts as structural determinants of HIV/AIDS epidemics, and are considered in this chapter, economic, health and food insecurity have the greatest impact at the health outcome level. As such, this chapter particularly focuses on economic, food and health insecurity and their influences on HIV/AIDS epidemics. As already mentioned, to a large degree the security threats are concomitant. When there is economic insecurity there is likely to be food insecurity and health insecurity too.

### **Economic insecurity in global HIV/AIDS settings**

There are a number of different drivers of economic insecurity. Economic insecurity occurs when individuals cannot obtain the financial needs to cover everyday life. At its basic core it might be defined as a lack of “...an assured basic income-usually from productive and remunerative work, or in the last resort from some publicly financed safety net” (UNDP, 1994, p. 25). Without financial resources individuals may be unable to gain the education needed to gain basic competencies in order to find work and if they do find employment they may be unable to afford to obtain the qualifications needed to propel them into higher income brackets. Lower or no income makes it impossible for individuals to accrue savings, which may be required in times of sickness or unemployment. An individual may not have the necessary economic resources to access the services needed on a daily basis.

Homelessness, poverty and unemployment all constitute economic insecurity. This is particularly problematic in HIV/AIDS epidemics because individuals who are struggling to meet their daily needs are less focused on what might happen in the future than they are about their needs on any given day. Interestingly, economic insecurity has a dual pronged effect in HIV/AIDS epidemics. Firstly, being HIV+ has a detrimental effect on people’s ability to obtain economic security leading to high-risk behaviours that exacerbate HIV transmission. Secondly, the economic insecurity experienced by PLWHA affects their ability to manage

their HIV/AIDS infections leading to sub-optimal outcomes for ART regimes and often a lack of ability to access medical care.

### **HIV/AIDS influence on economic insecurity**

Households affected by HIV/AIDS are likely to experience reduced earning capacities due to unemployment, family members needing to care for HIV+ individuals, and associated costs such as funeral expenses, legal and medical costs (Elbe, 2010). There has been extensive research in Sub-Saharan Africa and the US that has documented the many ways that HIV/AIDS causes economic insecurity (Conyers et al., 2014; Salmen et al., 2015). In general, HIV contributes to economic insecurity through the reduced work capacity and productivity of adults. There are also effects due to increased orphans, which manifests as missed educational opportunities for children as well as their inability to generate an income. Vulnerable women are at risk of losing their income due to ill health and finding themselves in a position where they are negotiating sexual relationships for the support of male breadwinners (Ala, 2003; Salmen et al., 2015).

The effects of economic insecurity are far-reaching and comprehensive. In addition to being unable to work for the basic needs of life (such as food) it may result in homelessness (which may also be considered environmental insecurity). The results of HIV/AIDS and homelessness are exacerbated by the conditions that occur as a result of homelessness. In addition to the vulnerability that homelessness produces are the stress and mental health issues that arise from the conditions they are living in. The ongoing ramifications of this stress and mental health are an exposure to violence and sexual exploitation and drug and alcohol use (Bhunu, 2015). Statistics concerning the correlation between homelessness and HIV indicate that homeless individuals are likely to have infection rates 16 percent higher than those who have a stable living environment (Bhunu, 2015). PLWHA may be susceptible to losing their home due to the high costs associated with medical care and figures suggest that at least half of all HIV+ individuals experience homelessness (Aidala et al., 2007). In the US the figures are between one third and one half of all PLWHA experiencing housing instability through unaffordability placing them in a position of homelessness or imminent homelessness (Bhunu, 2015).

Another result of economic insecurity is high population mobility. Increased numbers of labour migrants are moving from areas of low or no employment to areas where there are greater employment opportunities. The ramifications of high population mobility include a break down in societal structure, often resulting in women and children being negatively impacted educationally, and women attempting to address financial lack with subsistence employment (Antman, 2013). In addition to the ramifications of labour migration on the individual that is mobile including increased risk-behaviours in HIV epidemics.

Economic insecurity has further impacts of other areas of insecurity. Not only does it lead to homelessness, lack of basic needs, and labour migration it also leads to health insecurity, food insecurity, personal insecurity, community insecurity and environmental insecurity. In HIV/AIDS epidemics those individuals who are PLWHA, and those that are directly affected by PLWHA (such as partners, children, parents), are often likely to suffer from some degree of economic insecurity. However, in a cyclical, casual sequence economic insecurity also has an effect on HIV/AIDS epidemics. Thus, economic insecurity is fundamentally entwined with HIV/AIDS epidemics.

### **Influence of economic insecurity on HIV/AIDS**

Economic insecurity is a direct challenge for people undertaking ART regimes. When resources are scarce they must be used for the most pressing issues such as food and shelter, resulting in medicine being relegated to an issue to be resolved at a later date. While HIV/AIDS will inevitably result in death without ART, the immediate need to avoid starvation supersedes that future concern. Lack of income and financial stability inevitably leads to lack of stability and security in other areas. Without the necessary funds, securing a home, food or accessing needed medication is a challenge that is unable to be met by many people. As a result, health plummets and the problem is exacerbated.

Often times, even when the drugs themselves are free, the costs of attending clinics, loss of wages, and medical expenses are prohibitive for many (Chen, personal communication, December 2013). This leads to high rates of attrition from ART programs and potentially, to increased cases of drug-resistant strains of HIV occurring. For PLWHA the costs of procuring even 'free' medicines can be unaffordable due to the associated costs such as loss of income due to time spent away from work while travelling to clinics, transportation costs

(Young et al., 2014), accommodation costs and supportive medical costs (such as liver function tests) (Chen, personal communication, December 2013). Considering that HIV/AIDS disproportionately affects the marginalised and poor communities the need to address economic insecurities may even result in individuals trading or selling ART for food and other resources (Young et al. 2014).

In addition to the often prohibitive costs of health care and medicines, for PLWHA, economic insecurity often leads to transactional sex including high-risk behaviours such as not using condoms (women are often unable to successfully negotiate safe sex practices) in order to obtain food or drugs (Conyers et al., 2014; Whittle et al., 2015). Engagement in these unsafe practices further exacerbates HIV/AIDS epidemics through increased transmission of HIV between individuals (Shannon et al., 2015). One of the main drivers of high-risk behaviours during times of economic insecurity is the lack of food security. Food insecurity is such an important component that it is considered to be a separate pillar of human security. Thus the next section focuses on how food insecurity adds to the challenges of HIV/AIDS epidemics in that it not only impacts on the transmission of HIV/AIDS through behavioural practices but also impacts the viability and optimisation of ART regimes through a lack of nutritional robustness for individuals.

### **Food insecurity in global HIV/AIDS settings**

Food insecurity occurs when individuals cannot ensure that they have the ability to feed themselves. Therefore, manifestations of food insecurity include hunger, malnourishment and famine. Food insecurity occurs when the following conditions are not met:

...that all people at all times have both physical and economic access to basic food. This requires not just enough food to go around. It necessitates that people have ready access to food - that they have an “entitlement” to food, by growing it for themselves, by buying it or by taking advantage of a public food distribution system. (UNDP, 1994, p. 27)

The salient point in the UNDP definition is not only that food is available, but also that individuals have the ability to access that food (Elbe, 2010; UNDP, 1994). Therefore, food insecurity, is the limited or adequate availability of nutritious, safe food or the inability to procure suitable foods in ways that are socially acceptable (Whittle, 2015, p.1; Weiser et al. 2011). In China for example, food is readily available and yet may be difficult to obtain for

FSWs, PWID and floating migrants. During field research in China<sup>28</sup> it was revealed that a number of the PLWHA were limited to one meal of rice per day. In one situation an eighty-four year old women who had lost two sons to AIDS related infections was struggling to survive on the charity of neighbours and less than fifty yuan a month.

Thus, food insecurity occurs when people cannot meet their dietary requirements by accessing enough safe and nutritious food (due to physical, social or economic insufficiencies) to achieve their right as humans to live an active and healthy life (Young et al., 2014). Moreover, while extremely problematic in and of itself, food insecurity inevitably leads to other insecurities. Kalichman et al. (2014) comment:

... food insecurity was associated with multiple poverty markers, including fewer years of education, greater likelihood of unstable housing, lack of transportation for health care and food/meals and a greater likelihood of receiving food from faith-based services. (p. 1137)

Different structural drivers for food insecurity (such as economic insecurity) lead to poverty, lack of education, gender inequality and issues of stigma that alienate individuals from their communities.

Some of the main reasons people in HIV/AIDS settings experience food insecurity include: a lack of economic resources to purchase appropriate amounts of food; sick family members are unable to work resulting in lower incomes and care-burdens increase (Anema et al., 2009; Bukusuba et al., 2007). In addition to which, depression and mental health issues that are directly related to economic insecurity and the stress associated with needing to source food and adequate shelter on a daily basis, may also lead to poor choices and high-risk behaviours (Kang et al., 2015). This point is especially pertinent in HIV/AIDS situations, particularly for key populations who are often already suffering some levels of human insecurity. Food insecurity therefore has wide ranging impacts for key populations and PLWHA. It directly contributes to the horizontal and vertical transmission of HIV/AIDS and causes continuing problems once the virus has been contracted (Weiser et al., 2011) (see page 8, Figure 2).

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<sup>28</sup> Undertaken by this researcher.

In key populations food insecurity results in the adoption of high-risk behaviours such as the selling of sex to generate enough money to buy food. For PLWHA the impacts of food insecurity are increased as not only does it lead them into high-risk behaviours but also negatively affects their ability to maintain ART regimes. For some PLWHA suffering from food insecurity this may appear to constitute legitimate contraindications for optimal health outcomes. Young et al. (2014) state:

Food insecurity and HIV are “syndemic”: there is a positive biological and social interaction in which one exacerbates the negative health effects of the other. It is increasingly recognized that food insecurity both heightens vulnerability to HIV infection and at the same time exacerbates poor clinical outcomes among PLHIV. (s. 507)

Among the complications associated with food insecurity in HIV/AIDS settings are incomplete RNA suppression (or viral load suppression), declining CD4 counts, a lower body mass index, increased opportunistic infections and hospitalisations, and HIV-related mortality (Cox et al., 2016; Ivers et al., 2009; Young et al., 2014). Thus, for PLWHA food insecurity is associated with higher morbidity and mortality as well as impaired immunologic and virologic results and ART pharmacokinetics (Benzekri et al., 2015; Cox et al., 2016; Whittle et al., 2015).

Furthermore, the physical side effects of food insecurity may result in decreased ART adherence and high attrition rates due to the inability of PLWHA to cope with the physical side effects of ART (Anema et al., 2009; Chen, personal communication, December 2013; Cox et al., 2016). Undertaking ART, particularly in the early stages when the body is adapting to the drug cocktail, is difficult without the complications of food insecurity. When taken without food ART has been known to cause adverse side effects such as: nausea, vomiting, stomach pains, dizziness, headaches, fainting, sweating, rapid heartbeat and ultimately, poor adherence (Young et al., 2014). This is of particular concern in managing the spread and infectiousness of HIV. One of the main reasons for this is that PLWHA are less likely to be taking ART and when they are taking ART, are less likely to adhere to the regime because they have run out of medications or have to prioritise food over medicine (Kalichman et al., 2014). While this produces a poor outcome for the individual it also has ramifications for epidemics due to the likelihood of developing drug-resistant strains of HIV and ART failure (Kalichman et al., 2014). Conversely, food security improves treatment outcomes, adherence and the uptake of ART (Claros, de Pee, & Bloem, 2014).

Food insecurity is also implicated in high-risk sexual practices (such as unprotected transactional sex), which have a direct correlation with increased acceleration of the virus and increased risk of HIV vertical or horizontal transmission (Aberman et al., 2014; Bukusuba et al., 2007). This may be particularly the case for women who may also engage in intergenerational sex, earlier marriage and abusive relationships (Pascoe, 2014). Often transactional sex, undertaken as a method for procuring money or food, is entered into to address severe food shortages and may result in individuals agreeing not to wear condoms out of fear of losing a client or in order to gain extra money (Whittle et al., 2015). The need for food simply outweighs the need to use protection during sex. Significantly, illicit drug taking environments further disrupt food intake by creating social, economic, physical and policy obstacles that inhibit individuals access to food (Cox et al., 2016).

Food insecurity and HIV/AIDS are engaged in a cycle of events that increase the severity of each (Anema et al., 2009). The risk factors for food insecurity include: unstable housing, low income, illicit drug use, depression, unemployment and young age (Cox et al., 2016). This cycle is driven by factors such as sociodemographic (such as homelessness, low income), socioeconomic (such as unemployment), behavioral actions (such as illicit drug taking) and clinical illness (such as depression), which generate increased adverse HIV/AIDS health outcomes resulting in an inability to acquire food (Cox et al., 2016). Thus the cycle of insecurity is perpetuated (see page 9, Figure 3). Addressing this as a human insecurity issue in HIV/AIDS situations is paramount in order to mitigate both the effects that food insecurity has on increased transmission in epidemics and also the impacts that it has on PLWHA ability to adhere to ART regimes in TasP health scenarios. The many ways that food insecurity negatively impacts society in general and global HIV/AIDS epidemics specifically, such as high-risk behaviours the high attrition rates along the cascade, mean that finding solutions must be considered a primary concern for governments.

While food insecurity may disproportionately affect those who live in poorer areas globally, it also occurs among more affluent urban populations although this may change as HIV prevalence increases in rural populations (Pascoe, 2014). As a part of economic insecurity, food insecurity causes many of the same negative outcomes. Food insecurity has also been linked to lack of education and understanding about HIV/AIDS, flexible attitudes and/or understanding about the HIV/AIDS risk reduction behaviours, and poorer self-sufficiency (Pascoe, 2014). While food insecurity is not a direct causative of health insecurity it does contribute, as individuals are unable or unwilling to use the limited economic resources they have to achieve better health. While death from AIDS might be a future possibility it loses significance when measured against the very real possibility of imminent starvation.

### **Health insecurity in HIV/AIDS settings**

Human insecurity and health are intrinsically linked because the health of individuals is an essential requirement for human survival and long-term fulfilment (Lo, 2015). Moreover, no individual should have to endure health insecurity. The constitution of the WHO states: “The enjoyment of the highest attainable standard of health is one of the fundamental rights of every human being, without distinction of race, religion, political belief, economic or social condition” (WHO, 2006, para 3). It also decrees that health is a “...state of complete physical, mental and social well-being, and not merely the absence of disease or infirmity” (para 2). These two broad statements make it clear that health security should be the right of all people regardless of their status within the general population. However, in most scenarios the pursuit of health security remains firmly rooted within public health frameworks.

In order to better define health insecurity, it is useful to first comprehend the historical foundations of health security. Collective health security has existed as a concept since the 14<sup>th</sup> century when quarantine was implemented as a measure to try and stop the spread of the bubonic plague (Heymann, 2015). Additionally, broader concepts of health security concerned with protecting states and individuals from pandemic disease can be further defined as the ability of individuals to access safe and effective health services, technologies and products as needed to ensure their own individual health security (Heymann et al., 2015). Furthermore, it incorporates the need to diminish risks to public health by protecting people from environmental and behavioural risk (Quinn et al., 2014). Health security is therefore fundamental to attaining peace and security of individuals (Aldis, 2008).

Poor health has a direct correlation to an individual's ability to obtain food, economic security, personal safety, collective security, prevent environmental degradation and achieve political security. Health insecurity has a decisive role in whether individuals and by extension communities, are able to determine their own course of life and actions in pursuit of life fulfilment (Nunes, 2014). Therefore, health insecurity threatens prosperity and the stability of political institutions and societies (Evans, 2010). Conclusively, in situations of disease, premature loss of life due to an individual's inability to obtain necessary health care represents a great threat to individuals globally (Elbe, 2011a).

Health insecurity occurs when individuals are unable to obtain universal and equitable access to requisite medications due to lack of availability or financial constraints preventing their purchase (Yates et al., 2015). Protection against the financial risks of medical care can only be achieved through collective and collaborative action by governments both within, and when necessary, external to their own borders (Yates et al., 2015). Arguably, health insecurity is manifested in global infectious disease scenarios when there is no international collaboration or the inclusion of non-state actors and multinational corporations to deliver services (Chiu et al., 2009). Without that collective action, there is an inability to generate situations of preparedness and subsequent reductions in vulnerabilities to public health from threats that transcend national borders (De Cock, Simone et al., 2013).

On the macro level, the threat of naturally emerging and reoccurring infectious disease presents nation security dilemmas in as much as their expansion can be just as damaging to states as foreign military incursion in terms of mortality, morbidity and economic disruption (Elbe, 2011b). Furthermore, infectious disease has been identified as detrimental to states' abilities to protect themselves militarily, due to losses of trained individuals in standing and peacekeeping forces, from external threats. Indeed, this concept was one of the foundational concerns expressed when pushing for the securitisation of AIDS at the 2000 UN Security Council.

Apart from military concerns in HIV/AIDS epidemics individuals often endure health insecurity due to sometimes dysfunctional or inefficient health facilities, high costs of medical intervention and preventative services (Nunes, 2014). Certainly, deficiencies in the availability of ART and suboptimal access to sexual health services (including STI testing and contraceptives), safe and appropriate condoms, and HIV testing are major shortfalls in the global efforts to eradicate HIV/AIDS (Shannon et al., 2015). Bearing this in mind, it

becomes essential for nation-states to recognise the insecurity impacting individuals in HIV/AIDS epidemics to not only halt the spread of the disease but in ensure that quality and fulfilment of life is achievable.

On the micro-level health insecurity is therefore concerned specifically with a lack of enabling and protecting individuals from threats associated with disease. Elbe (2012, p. 321) posits: “Health security thus takes the provision of security beyond distant theatres and brings it to bear directly on – and indeed inside – the individual body, as the inner biological processes of our bodies become new battlefields of security policy”. As discussed, the securitisation of AIDS was couched in similar language. The war on AIDS had begun. Once HIV-1 was identified as the antagonist in AIDS epidemics the security focus subtly shifted from humanitarian concerns to war against the virus.

In doing so the individual only became considered in the wider framework of health. Global health models are not concerned with providing services to individuals rather they are more concerned with insuring that the health situations of individuals do not impact the broader scope of the population. Thus the focus becomes preventing the spread of sickness rather than healing the individual. This disallows for the idea that healing the individual and providing for their needs actually positively contributes to halting the spread of disease within communities as a whole. Managing the human insecurity needs of key populations and PLWHA by reducing health insecurity results in lower high-risk behaviours and better optimisation of TasP initiatives. Likewise, the human insecurity of individuals is predicated on their inability to avoid the other six pillars of human insecurity (Elbe, 2010).

### **Environmental insecurity**

Environmental insecurity most often results from the external factors that individuals face. From a macro standpoint such as that of the globalised society, these include things such as conflict, pollution, natural disasters, degradation and drought. These issues tax the financial resources of nation-states and can result in massive losses of income and economic security for individuals. In situations of natural disasters individuals may lose their homes and business. In rural and agrarian based environments droughts may lead to a loss of crops and lack of water causing rural industries to decline. Additionally HIV/AIDS adversely affects commercial and subsistence farming. This is particularly the case for HIV+ subsistence

farmers who do not have the financial resources to employ labour and mitigate the impacts of the disease (Ala, 2003).

In addition to resulting in poor living conditions at the point of origin, environmental insecurity often leads to high numbers of labour migrants leaving their areas and crossing national boundaries and international borders in search of economic security to solve the problems that have arisen due to environmental insecurity. The impacts of labour migration on rates of HIV transmission have been extensively discussed during the course of this thesis. However, much of the environmental insecurity faced by individuals can also be due to everyday environmental factors such as poor living conditions, unsafe workplaces and conditions of incarceration. This is particularly the case for PLWHA and key populations in HIV/AIDS epidemics. They are frequently marginalised and stigmatised to such an extent that they live on the edges of society. They are often homeless or suffering from housing instability and economic insecurity which results in them becoming entrenched in poverty and the associated insecurities leading to poor health outcomes and high-risk behaviours. As a result of poverty they are likely to encounter unsafe workplace environments, which in the case of FSWs may lead them to sell sex from street corners or off-street through advertisements in newspapers or by phone or text rather than the relative safety of a brothel where there may be safety measures in place (such as client sign-in and removal of violent clients) (Shannon et al., 2015).

In addition to unsafe work environments FSWs and other key populations are at risk of incarceration due to criminalisation of sex work and drug usage. Punitive laws and national policies pertaining to sex work in particular may cause environmental insecurity due to the demolition of red-light districts, legal restrictions on where FSWs can operate and incarceration (Shannon et al., 2015). These situations have been found to elevate HIV transmissions risks, generate stigma, increase food and economic insecurity, create homelessness due to eviction and economic hardship, and have also been associated with inconsistent condom use. However, the results extend to affect the personal security of individuals in situations of environmental insecurity.

## **Personal insecurity**

Personal insecurity is heightened by the presence of other insecurities. When an individual is homeless or suffering from food insecurity they are less able to negotiate the spaces they operate within. In HIV/AIDS scenarios this can often be caused by environmental insecurity and economic insecurity, which leads individuals to undertake sex work or drug usage in areas that are unsafe. Within criminalised environments, FSWs are often exposed to violence (including sexual violence) from a host of different people including clients, police, managers, pimps and other predatory individuals (Shannon et al., 2015). Women, in particular those who are single and homeless, are prone to gender based violence and are more likely to suffer both domestic violence and sexual abuse (Bhunu, 2015; Taylor, 2016). This type of personal violence is likely to lead to inconsistent use of condoms both through a lack of ability to negotiate their use and client insistence and condom refusal.

The criminalisation of sex work and illicit drug use can create situations of abuse leading to personal insecurity. Police raids can often lead to displacement, arrests and incarcerations, in addition to the confiscation of condoms and drug taking paraphernalia leaving FSWs unable to use barrier protection and PWID having to share needles (Shannon et al., 2015). Lack of condom usage and needle sharing practices are well documented as increasing HIV transmission rates and exacerbating HIV/AIDS epidemics. This is in addition to the fear that results from the criminalisation of drug use and sex work, which prevents members of key populations from accessing medical services or ascertaining HIV status.

Due to homonegativity MSM and TG populations have a high vulnerability of discrimination and mistreatment (Zea et al., 2013). Violence and sexual violence perpetrated against MSMs and TG populations may arise due to stigma and discrimination. Incidental conversations with TG and MSM sex workers at AIDS 2014 (personal communication, July 2014) revealed that they often faced rape, beatings and were forced to perform oral sex both in a community context and in cases of incarceration. Thus personal insecurity is directly related to other insecurities such as environmental (poor working conditions and incarceration) and a lack of community support. Without membership in a community PLWHA and key populations are made more vulnerable to personal insecurity resulting in violence.

## **Community insecurity**

Strong community support is beneficial for PLWHA as they are more likely to maintain ART regimes and can rely on help from family and friends for the resources needed to access health care, including voluntary testing and ART medicines (Salmen et al., 2015). However, community insecurity means that many PLWHA and key populations are alienated from these potential support networks. The most common outcome of community insecurity in HIV/AIDS settings is stigma. The issue of stigma has been well documented as having extensive detrimental effects in HIV/AIDS epidemics.

In situations of stigma PLWHA are isolated from family and friends and bear the burden of the disease unaided. In doing so they may be forced to visit medical practitioners and take ART medications in secret; and make difficult decisions about their health; and navigate challenging economic situations without support or advice (Salmen et al., 2015). Conversely, they may choose not to access medical advice at all and remain ignorant of their HIV seroconversion. This also has implications for MTCT as women may be aware that breastfeeding can result in vertical transmission of HIV but due to both high costs of replacement formulas and cultural norms that dictate breastfeeding women may continue to breastfeed rather than risk exposure as a PLWHA (Buesseler et al., 2014). This situation is one of high stress and anxiety, which further complicates the lives of HIV+ women.

Thus, in addition to dealing with the challenges of HIV/AIDS without assistance or with very little assistance, PLWHA have to cope with increased stress, anxiety and depression which may lead to thoughts of suicide and in severe cases attempts at suicide (Sun et al., 2014). Stress has also been linked to lower adherence to ART regimes and negative effects on immune functions, which are compromised in HIV/AIDS infections (Mukund & Gopalan, 2015). In China, the stress, anxiety and depression as a result of stigma has led to 40.1 percent of PLWHA in a research cohort having thoughts of revenge by deliberately infecting other individuals (Sun et al., 2014). Thus community insecurity has major implications for the treatment and prevention of HIV/AIDS.

## **Political insecurity**

Political insecurity can have a devastating effect on HIV/AIDS rates of transmission and treatment outcomes. In many situations globally political insecurity leads to high migration,

economic insecurity and personal and community insecurity. Political insecurity is a driver of other insecurity. TasP and an efficient cascade require staff that is trained in its administration and a regular and adequate supply of medications. In situations of conflict hospitals and medical clinics may be forced to shut down resulting in disruptions to HIV testing and HIV/AIDS treatment due to drug stocks being diminished. Internal political situations may also impact HIV/AIDS epidemics due to lack of political investment. In most countries domestic HIV responses are inadequate to successfully address the epidemics (Ávila et al., 2013).

Unstable political environments also result in economic insecurity due to displacement and lack of economic development (Alesina et al., 1996). Displacement is a major problem globally with individuals being forced to leave their places of residence and flee the effects of armed conflict, generalized violence or man-made disaster (Zea et al., 2013). The impact of displacement due to political insecurity and its relationship with HIV/AIDS can fuel HIV epidemics due to rape as a weapon of war, economic insecurity, personal insecurity, food insecurity and community insecurity. This loss of community may lead to anxiety, stress and mental health issues resulting in changed behaviours (Friedman et al., 2013; Zea et al., 2013). These changed behaviours may manifest as high-risk sexual practices and drug taking.

### **Insecurity in China's HIV/AIDS epidemics**

This chapter has revealed that the seven areas of insecurity that need to be addressed within human security frameworks are all overlapping and one area of insecurity can cause insecurity in another area. This is certainly the case for the HIV/AIDS situation in China. This thesis has extensively discussed the situation for China's key populations and PLWHA. The human insecurity of individuals is manifold and as a result the HIV/AIDS epidemics are continuing to expand and become generalised. Economic insecurity is extensive in key populations, particularly for PLWHA, and the results of this are manifest in the lack of affordability to access ART and high levels of food insecurity. This is regardless of the 'Four Frees and One Care' initiatives. Considering the PRCs adoption of TasP as their primary methodology for dealing with HIV/AIDS this present real problems as high attrition rates and lack of ART initiation (due to lack of finances or issues related to poor nutrition) mean that optimal outcomes are unattainable.

Food insecurity and health insecurity are particular problems causing leakage on the TasP cascade. The high costs of health care create situations of health insecurity as individuals are often unable to utilise the health services that are available. Additionally, PLWHA may choose not to attend government run medical services due to fear of stigma and exposure as FSWs or PWID and the negative implications of that for their personal and community security. Many migrants are still unaware that PLWHA are able to access testing and ART outside of the *hukou*. Food insecurity has been shown to cause high attrition rates and poor nutrition may result in being unable to undertake ART at all. Added to which, the pressures of food insecurity may result in CSWs agreeing to forgo condom usage out of fear of losing a client or for higher payments for services.

The high marginalisation and mobility of key populations and PLWHA in China mean that community insecurity is extensive. Issues related to Confucian values and undesirability of populations considered inferior or disgusting prevent individuals from obtaining family support, employment and housing. Many PLWHA in China are loath to expose their family members to public censure and therefore choose to remain ignorant of their status or keep it hidden. This causes high levels of stress, anxiety and depression as they navigate medical services and attempt to maintain ART regimes in secrecy. This in turn may lead to other high-risk behaviours such as injection drug use and lack of protected sex.

Having become disconnected from their communities PLWHA and key populations are often placed in situations of environmental and personal insecurity. They may be forced into work and living environments that are unsafe and which expose them to violence and sexual predation and abuse. This is particularly the case for TG and MSM populations as increased stigma and homonegativity may lead to personal attacks, rape and other forms of violence. Often FSWs on lower hierarchies face exposure as street level sex workers without any of the protection that may be available in establishments. They are vulnerable to sexual violence and coerced into unprotected sex. They are also likely to be less discriminating when choosing clients (or feel unable to refuse clients) in order to address issues of food insecurity.

Finally, the political situation in China means that PLWHA and key populations face political insecurity. HIV/AIDS is a sensitive topic for the PRC and they are often still disinclined to discuss the situation with outsiders. It is viewed as a state problem and entwined within other issues such as national border protection (in the case of migrants crossing national borders

from Myanmar and Vietnam). State run newspapers report on HIV/AIDS according to party policy and often do not disseminate inclusive information. Government policy means that prevention and education programs are insufficient to meet the needs of China's HIV/AIDS epidemics. As a result, China's HIV/AIDS epidemics are continuing to expand and have now crossed into the general population and become sexually driven.

## **Conclusion**

The complex nature of HIV/AIDS epidemics and the societal and personal dynamics inherent in the lives of PLWHA and key populations means that human security frameworks are essential to make an impact on present epidemics in China and globally. Within HIV/AIDS contexts insecurity is resulting in high-risk behaviours such as unprotected transactional sex in exchange for food or money to buy food, homelessness, depression, stress and anxiety and an inability to obtain the resources necessary to obtain good health. Economic insecurity leads to PLWHA being unable to afford the medicines and tests needed to maintain ART regimes. Additionally, the ancillary costs such as travel, accommodation and subsequent testing are often prohibitive. Lastly, economic insecurity results in poverty and food insecurity. Without sufficient food security the significant side effects of ART drug cocktails lead to high attrition rates, sub-optimal regime responses and potentially drug resistant strains of the virus.

This results in increased vertical and horizontal transmission rates of HIV. Without the medical services needed to address HIV/AIDS PLWHA become less able to work and more of a burden of family and the community. This generates a cyclical effect where health insecurity creates situations of economic insecurity and food insecurity, which further creates health insecurity. Indeed, all 7 areas of insecurity are impacted by each other. Political insecurity may lead to high mobility, lack of health services and medications and high personal insecurity. High mobility and lack of economic security leads to environmental insecurity in the work place and places of abode. Community also becomes fractured and individuals are left to navigate homelessness, anxiety, fear and stigma unaided. Ultimately, unless the human insecurity of PLWHA is sustainably addressed the conditions under which HIV/AIDS continues to spread will continue to hamper efforts to address the problem.

## **Conclusion**

*An ant may well destroy an entire dam.*

千里之堤溃于蚁穴

It seems counterintuitive to treat a disease rather than the individuals living with it and yet that seems to be the case for HIV/AIDS. Conceptually HIV/AIDS appears to be a disease that has individuals rather than a group of individuals that have a disease. The bodies of PLWHA are treated as battlefields in the ongoing war with HIV/AIDS. The referent object appears to be the HIV-1 virus rather than the individuals living with it and the repercussions it exposes them to on a daily basis. Of course it is essential to understand the challenges presented by the pathogenesis and epidemiology of the disease and continue to seek ways to prevent its continued spread. However, in the past there has been a disproportionate focus on addressing the mechanisms for stopping the spread of the HIV virus rather than recognising the human security deficits faced by PLWHA. Human security frameworks are intended to address the security of individuals and ensure that they are free from fear and want. This thesis is particularly concerned with human security and its seven underpinning processes vis-à-vis economic security, health security, food security, community security, environmental security, personal security and political security and their applicability in global and Chinese HIV/AIDS contexts.

This thesis uses qualitative methodologies, including semi-structured interviews, in order to identify the current shortfalls and challenges faced by the PRC in addressing China's HIV/AIDS epidemics in marginalised and mobile populations in Yunnan. Using Yunnan and the three cohorts chosen provides an excellent case study for understanding both the history of the disease and the main drivers of the present epidemics. Applying human security as a theoretical foundation the thesis is structured to fully comprehend China's HIV/AIDS situation in the light of GBP, and ascertain the manner in which human security can contribute to the mitigation of HIV/AIDS infectiousness. Each chapter is foundational to those proceeding in order to present a compelling evidence for the adoption of human security methodologies in global HIV/AIDS epidemics.

Chapter 1 locates HIV/AIDS as a non-traditional threat to security, specifically human security. Further, it identifies China's lack of engagement with the concept of human security and resulting lack of political will to address the health needs of individuals rather than the population as a collective resulting in programming shortfalls at a grass-roots level. Also, in considering the HIV/AIDS epidemic to be an internal problem for the nation-state the PRC exhibits a lack of transparency concerning the spread of HIV/AIDS within China. In conjunction with the stigma attached to, and experienced by PLWHA, this was an area that proved to be problematic for the research undertaken for this thesis, as it was difficult to obtain correct figures or to engage with large numbers of stakeholders and key populations during field research in China.

Chapter 2 highlights the pathogenesis of HIV and the virus's exploitation of the human body as a challenge in China's HIV/AIDS epidemics. The ability to form recombinant strains, its mutability and the manner in which it targets and destroys the very cells needed to keep it from running rampant mean that it is a formidable threat to populations. This is seen in the epidemiology of the virus throughout China and the new and emerging CRFs in key populations. Additionally, the virus's biological abilities are facilitated when individuals fail, whether through lack of education or misunderstanding, to recognise the implications of their behavioural choices. High-risk behaviours increase the chances of infection between individuals. Thus, it is essential that programming which educates individuals and addresses high-risk behaviours be promoted.

Chapter 3 identifies current GBP in HIV/AIDS epidemics and considers China's responses and adoption of GBP. In doing so it highlights that current shortfalls in China's approaches to HIV/AIDS programming stem, in part, from their disinclination to increase NGO participation in addressing HIV/AIDS epidemics. It is recommended that PRC increase its engagement with NGOs and CBOs to meet the increasing needs of PLWHA. This will become even more essential as HIV/AIDS becomes a chronic health problem rather than disease guaranteeing death. Finally, China needs to increase its adoption and adaption of GBP. The initiatives outlined in GBP have proven to be adaptable and effective in disparate HIV/AIDS epidemics globally. While they are not one-size fits all approaches they do provide basic operational guidelines. That is not to suggest that China has not adopted any GBP – MMT, stigma reduction, condom programs, syringe and needle programs and TasP are all in use in China. However, to be effective in continuing situations they must make

further efforts to 'Know your epidemic, Know your response' and increase the viability of their cascade of care.

Chapters 4, 5 and 6 of this thesis examined the historical perspective of HIV/AIDS in China and researched the situation for FSWs, PWID and floating migrants in Yunnan, as specific choices due to their historical and present role in HIV/AIDS epidemics. The highly porous nature of the international border areas of Yunnan presents one of the challenges faced by the PRC in controlling HIV/AIDS epidemics. The cross border movement of people, whether through international checkpoints or informally, provides a challenging environment for implementing prevention and education programs due to language and financial constraints. However, a shortfall for programming in the region is that there has been relatively little research done on the needs of key populations in Yunnan and arguably, the true nature of the HIV/AIDS epidemic in these areas has yet to be made manifest. However, it is clear from the research that the cross border trade in sex and drugs continues to drive the epidemic in Yunnan.

Chapter 7 identifies human insecurity as a major challenge in addressing HIV/AIDS in key populations in China. This thesis argues that environments of human insecurity exacerbate high-risk behaviours. The 7 specific areas of insecurity (economic insecurity, food insecurity, health insecurity, environmental insecurity, personal insecurity, community insecurity and political insecurity) are particularly damaging for HIV/AIDS key populations. Without addressing the human insecurity and attitudes of individuals within key populations it is debatable whether systematic, long-term change can be possible. Human security is not possible without first eliminating human insecurity. Providing services without ensuring that they can be accessed equitably renders them ineffective.

For example, although the PRC has committed to providing free ART and care for those contracting opportunistic infections, the associated costs can be insurmountable for many. Being provided with free ART but needing to pay the funds for subsequent costs can make the free medication unaffordable resulting in many of the HIV+ that are eligible for ART choosing not to take the medication. Additionally, many of the individuals in key populations are living in conditions of poverty. People who are undernourished are often unable to sustain ART regimes due to the extreme side effects associated with lack of basic nutrition. Ultimately, this results in sub-optimal responses to the medications, high rates of attrition from

ART programs and mismanagement of dosage and suspending medications. One of the potential far-reaching problems associated with this insecurity is a possibility that inconsistent medication usage may lead to further drug resistant strains of HIV.

A requirement pivotal to the ‘freedom from want’ concept of human security is the right for individuals to access adequate and safe healthcare. Health security is essential in the management of HIV/AIDS epidemics. The availability of sustainable, long-term health care and quality medication cannot be overemphasised. In China, this is complicated by high levels of stigma and the need for PLWHA to attend public clinics for the management of the ART program. The human security threats faced by individuals have a real and compounding effect on policy decisions at governmental levels. China obviously does not endorse human security frameworks in addressing HIV/AIDS epidemics. Available funding for programs not directly related to TasP initiatives and long-term condom and MMT programs is limited.

In addition to identifying shortfalls and challenges in China’s HIV/AIDS programs and their lack of useful human security frameworks, this dissertation has also identified a number of areas that would benefit from further research. While MSM and TG populations were not a focus of this thesis it is clear that there is a paucity of literature addressing the subject in China contexts. The illegal and hidden nature of MSM result in their marginalisation and they become extremely difficult to approach. While the term *ghost people* was applied specifically to TG men in China it may be apropos as a label for MSM populations in general. Considering that China’s HIV epidemics are now sexually driven identifying ways to mitigate the HIV/AIDS epidemic in MSM populations is essential.

A second area that needs further research is the pressure placed on sex workers (both male and female) to induce their clients to engage in drug taking as a part of commercial sex exchanges. Additionally, the fact that brothel gatekeepers impose fines on sex workers for being unsuccessful is indicative of the absolute perseverance they are expected to bring to bear in these situations. Apart from information obtained in primary research there was no literature available on this subject. Which could indicate that this is a relatively new phenomena and thus an area that has yet to be researched in any sustained manner. Bearing that in mind, this information represents a unique and valuable contribution to the existing literature concerning CSWs.

Lastly, there is very little information concerning the burden of HIV/AIDS in migrant populations (whether internal or external) within China. This is an area that would benefit from extensive research as migrants make significant contributions to the spread of HIV/AIDS. Moreover, due to their transitory nature they are more likely to spread the disease to areas that may currently have low infection rates. Rural migrants working in urban centres must be considered as possible disseminators of infection into rural areas that may be relatively isolated from other key populations.

In the final instance, after distilling the problem down, the real stakeholders are individuals. Rather than state security issues having a downward trickle effect on the populations within national borders, the impact of the disease on individuals generates a kind of capillary motion resulting in security issues spreading upward to impact the state. Thus, using the same rationale, the solutions must also be generated from the bottom upward rather than the top down. To reiterate, HIV/AIDS is a disease that affects individuals not states. The repercussion of individuals living with the virus and infecting others is what impacts states. The extensive economic pressures faced by nation-states; the loss of life; the required medical infrastructures; the need for extensive education and prevention campaigns; the breakdown of community structures; and the potential negative impacts of disease on military forces and cross-border diplomatic relationships are all causal sequences. Bottom-up approaches that operate in accordance with the human security prerogatives and consultation of individuals in key populations, whether living with HIV/AIDS or not, are needed to enlighten top-down policy.

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## Appendix 1

### **UN Security Council Resolution 1308 (2000) on the Responsibility of the Security Council in the Maintenance of International Peace and Security: HIV/AIDS and International Peace-keeping Operations**

Security Council Distr.: General

17 July 2000

Resolution 1308 (2000) Adopted by the Security Council at its 4172nd meeting, on 17 July 2000

The Security Council,

Deeply concerned by the extent of the HIV/AIDS pandemic worldwide, and by the severity of the crisis in Africa in particular,

Recalling its meeting of 10 January 2000, on "The situation in Africa: the impact of AIDS on peace and security in Africa", taking note of the 5 July 2000 report from UNAIDS (S/2000/657) which summarizes follow-up actions taken to date; and recalling further the letter of its President dated 31 January 2000 addressed to the President of the General Assembly (S/2000/75),

Emphasizing the important roles of the General Assembly and the Economic and Social Council in addressing HIV/AIDS,

Stressing the need for coordinated efforts of all relevant United Nations organizations to address the HIV/AIDS pandemic in line with their respective mandates and to assist, wherever possible, in global efforts against the pandemic,

Commending the efforts by UNAIDS to coordinate and intensify efforts to address HIV/AIDS in all appropriate forums,

Recalling also the 28 February 2000 special meeting of the Economic and Social Council, held in partnership with the President of the Security Council, on the development aspects of the HIV/AIDS pandemic,

Welcoming the decision by the General Assembly to include in the agenda of its fifty-fourth session an additional item of an urgent and important character entitled "Review of the problem of HIV/AIDS in all its aspects", and encouraging further action to address the problem of HIV/AIDS,

Recognizing that the spread of HIV/AIDS can have a uniquely devastating impact on all sectors and levels of society,

Reaffirming the importance of a coordinated international response to the HIV/AIDS pandemic, given its possible growing impact on social instability and emergency situations,

Further recognizing that the HIV/AIDS pandemic is also exacerbated by conditions of violence and instability, which increase the risk of exposure to the disease through large movements of people, widespread uncertainty over conditions, and reduced access to medical care,

Stressing that the HIV/AIDS pandemic, if unchecked, may pose a risk to stability and security,

Recognizing the need to incorporate HIV/AIDS prevention awareness skills and advice in aspects of the United Nations Department of Peacekeeping Operations' training for peacekeeping personnel, and welcoming the 20 March 2000 report of the United Nations Special Committee on Peacekeeping Operations (A/54/839) which affirmed this need and the efforts already made by the United Nations Secretariat in this regard,

Taking note of the call of the Secretary-General in his report to the Millennium Assembly (A/54/2000) for coordinated and intensified international action to reduce the HIV infection rates in persons 15 to 24 years of age by 25 per cent by the year 2010,

Noting with satisfaction the 13th International AIDS Conference, held from 9 to 14 July 2000 in Durban, South Africa, which was the first conference of this type to be held in a developing country and which drew significant attention to the magnitude of the HIV/AIDS pandemic in sub-Saharan Africa, and further noting that this Conference was an important opportunity for leaders and scientists to discuss the epidemiology of HIV/AIDS and estimates of resources needed to address HIV/AIDS, as well as issues related to access to care, mother to child transmission, prevention, and development of vaccines,

Bearing in mind the Council's primary responsibility for the maintenance of international peace and security,

1. Expresses concern at the potential damaging impact of HIV/AIDS on the health of international peacekeeping personnel, including support personnel;
2. Recognizes the efforts of those Member States which have acknowledged the problem of HIV/AIDS and, where applicable, have developed national programmes, and encourages all interested Member States which have not already done so to consider developing, in cooperation with the international community and UNAIDS, where appropriate, effective long-term strategies for HIV/AIDS education, prevention, voluntary and confidential testing and counselling, and treatment of their personnel, as an important part of their preparation for their participation in peacekeeping operations;
3. Requests the Secretary-General to take further steps towards the provision of training for peacekeeping personnel on issues related to preventing the spread of HIV/AIDS and to continue the further development of pre-deployment orientation and ongoing training for all peacekeeping personnel on these issues;
4. Encourages interested Member States to increase international cooperation among their relevant national bodies to assist with the creation and execution of policies for HIV/AIDS prevention, voluntary and confidential testing and counselling, and treatment for personnel to be deployed in international peacekeeping operations;
5. Encourages, in this context, UNAIDS to continue to strengthen its cooperation with interested Member States to further develop its country profiles in order to reflect best practices and countries' policies on HIV/AIDS prevention education, testing, counselling and treatment;
6. Expresses keen interest in additional discussion among relevant United Nations bodies, Member States, industry and other relevant organizations to make progress, inter alia, on the question of access to treatment and care, and on prevention.

## **Appendix 2**

### The Millennium Development Goals

In September of the year 2000, leaders of 189 countries met at the United Nations in New York and endorsed the Millennium Declaration, a commitment to work together to build a safer, more prosperous and equitable world. The Declaration was translated into a roadmap setting out eight time-bound and measurable goals to be reached by 2015, known as the Millennium Development Goals, namely:

1. Eradicate extreme poverty and hunger
  - Reduce by half the proportion of people whose income is less than \$1 a day
  - Achieve full and productive employment and decent work for all, including women and young people
  - Reduce by half the proportion of people who suffer from hunger
2. Achieve universal primary education
  - Ensure that all boys and girls complete a full course of primary schooling
3. Promote gender equality and empower women
  - Eliminate gender disparity in primary and secondary education preferably by 2005, and in all levels of education no later than 2015
4. Reduce child mortality
  - Reduce by two thirds the mortality of children under five
5. Improve maternal health
  - Reduce maternal mortality by three quarters
  - Achieve universal access to reproductive health
6. Combat HIV/AIDS, malaria and other diseases
  - Halt and reverse the spread of HIV/AIDS
  - Achieve, by 2010, universal access to treatment for HIV/AIDS for all those who need it
  - Halt and reverse the incidence of malaria and other major diseases
7. Ensure environmental sustainability
  - Integrate principles of sustainable development into country policies and programmes; reverse the loss of environmental resources
  - Reduce biodiversity loss, achieving, by 2010, a significant reduction in the rate of loss
  - Halve the proportion of people without access to safe drinking water and basic sanitation
  - Improve the lives of at least 100 million slum dwellers by 2020
8. Develop a global partnership for development
  - Develop further an open, rule-based, predictable, non-discriminatory trading and financial system
  - Address special needs of the least developed countries, landlocked countries and small island developing States
  - Deal comprehensively with developing countries' debt
  - In cooperation with pharmaceutical companies, provide access to affordable essential drugs in developing countries
  - In cooperation with the private sector, make available the benefits of new technologies, especially information and communications technologies

For more information, please visit: [www.un.org/millenniumgoals](http://www.un.org/millenniumgoals)

### **Appendix 3**

#### **INTERVIEW QUESTIONS**

1. What role does your organisation play in HIV/AIDS prevention?
2. Is your organisation able to influence the formation and implementation of policies towards marginalized groups living with HIV/AIDS? If so, how is this achieved?
3. Does your organization perceive HVAIDS to be a non-traditional threat to national security?
4. What is your understanding of the concept human security? How is it related to “people safety”?
5. Is the Central Chinese Government acting alone or in cooperation with non-governmental organizations in its response to HIV/AIDS?
6. Do current policies, aimed at preventing the further spread of HIV/AIDS seek to uphold individual concerns for the human security of people living with HIV/AIDS? If so, how is this attempted?
7. What are the challenges faced by HIV/AIDS treatment and education initiatives in marginalized and mobile populations?
8. Are there specific campaigns targeted at these hard to reach populations? If so, what are they?
9. Do HIV/AIDS prevention campaigns work in conjunction with non-governmental organizations in China?
10. Do HIV/AIDS prevention and education campaigns work in conjunction with non-governmental organizations in China?
11. What HIV prevention methods are currently promoted in China? And, how are these prevention methods received by Chinese society?
12. What are the current treatments available for HIV/AIDS patients in China? What proportion of those infected with HIV/AIDS would be able to access such treatments?
13. Do current responses to HIV/AIDS occur simultaneously at an international, national and local level? If so, do these levels engage with one another?
14. What difficulties do HIV/AIDS prevention and treatment campaigns face in China? And, how do you believe such difficulties can be overcome?
15. What is your understanding of the current HIV/AIDS situation in Yunnan province? Do you think that the prevention and treatment programs in place are sufficient?