

THE HIV/AIDS EPIDEMIC IN UKRAINE: ITS POTENTIAL SOCIAL AND ECONOMIC IMPACT

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ABSTRACT

THE HIV/AIDS EPIDEMIC IN UKRAINE: ITS POTENTIAL SOCIAL AND ECONOMIC IMPACT

Present and immediately foreseeable medical knowledge suggest that HIV infection cannot be avoided by vaccination and that an affordable cure for the resulting syndrome, AIDS, is a long way off. There is a strong possibility that Ukraine is confronted by an HIV epidemic which will spread into the general population and the most common mode of transmission will be through heterosexual intercourse. The epidemic in the Ukraine is currently concentrated among intravenous drug users. It is estimated that between 60 000 and 180 000 people may currently be infected. In present economic and social circumstances there are many features of Ukrainian society that may add to the probability of the epidemic becoming widespread in the general population. It is possible that this process may have already commenced. The result will be numerous additional deaths and illness over the short (5 year) (19 000-23 000 deaths), medium (10-15 year) (61 000 - 111 000), and longer terms (>20 year) (in excess of 40 000 - 160 000).

The research reported here was undertaken in 1997-8 and describes the potential medium to long term social and economic impact of an HIV/AIDS epidemic in Ukraine. Using the concepts of risk environment, susceptibility and vulnerability, it reports the problems which might be expected to develop in relation to care of excess orphans, the elderly, vulnerable households and regions as well as among those working in the "third sector". This is the social sector upon which exponents of the importance of developing sound "civil society" in "transitional economies" place heavy emphasis.

**KEYWORDS: HIV/AIDS UKRAINE SOCIO-ECONOMIC IMPACT TRANSITION
POTENTIAL**

Introduction

This article reviews the data on the HIV/AIDS epidemic in Ukraine, attempts to explain how and why the epidemic has evolved, and postulates medium- to long-term social and economic impacts. The research was commissioned by the British Council in support of the UNAIDS programme in Ukraine (Barnett and Whiteside, 1997).¹ Fieldwork was carried out by the first two authors in 1997 together with the Ukrainian and Russian colleagues listed as co-authors. The potential future shape of the epidemic was modelled for the project by sub-consultants using public domain software.² The article also draws on discussion of the research at the Regional Meeting on the Socio-economic Impact of HIV/AIDS Meeting held in Kyiv from 23-24th April 1998. This meeting, at which the Ukraine Report was presented and discussed as a model for analysis (UNAIDS, 1998a), was attended by ministerial delegates from Ukraine, the Russian Federation, Belarus and Kazakhstan.

One of the most striking features of the situation in Ukraine is the speed with which the epidemic has developed. In 1995 the World Health Organisation characterised Ukraine as a low prevalence country. Between then and 1998 the situation deteriorated significantly. This illustrated in Figure 1. The study was carried out at a time when it was rapidly becoming apparent that Ukraine faced a growing HIV epidemic and consequential AIDS epidemic. But it was not clear how far or fast HIV would spread.

This article finds that there are many features of Ukrainian economy and society which might contribute to rapid “bridging”³ between infected populations and thus towards a generalised heterosexually transmitted disease. These include: patterns of sexual mixing, rates of untreated and incompletely treated sexually transmitted infections (STIs), the general health status of the population, and a number of other intermediate factors. If the epidemic does take hold, then it will have far-reaching economic social and political consequences.

HIV and AIDS Data

The available data on HIV and AIDS in Ukraine need careful interpretation, as they are very different

from the data common in Africa and Asia. HIV data are normally drawn from surveys of specific groups. Typically they will include blood donors, STD clinic attendees, people with TB and women attending ante-natal clinics. The last source, ANC attendees, provides the most useful data in the developing world as it is usually based on surveys done at regular intervals, and has fewer and more predictable biases⁴. Recent population based studies have shown that ANC data provide a good estimate of HIV prevalence in adults when the epidemic is hetero-sexually driven as in Africa and most of Asia.

In Ukraine data are collected at the regional level and sent to the national co-ordinating centre. Here they are collated and analysed before being released by the National AIDS Committee. The most recent data from UNAIDS for Ukraine dates from 1996. This was taken from the UNAIDS website in December 1999 (UNAIDS, 1998b).

HIV Data

During the initial period of the epidemic (from 1987 to 1994) there was mass HIV testing. Over 39 million (39 226 9860) tests were carried out. These were performed on all blood donors, pregnant women, sexual partners of HIV-positive persons, social and professional contacts of HIV-positive people, hospitalised patients, military personnel, people who were abroad for more than three months, “promiscuous persons”(sic), patients with STIs, prisoners, men who had sex with men, and drug addicts. Of the 39 million tests only 398 were positive, and the majority of these (215) were foreigners (see Table 1).

In 1994, the large scale testing of any population seen by the authorities as at risk was scaled down. It was not replaced with sentinel surveillance as found in many part of the world. Instead, officially identified commercial sex workers (CSWs) and intravenous drug users (IDUs), can be subjected to a compulsory test, as can people who show “epidemiological signs”. There is continued screening of blood donors and pregnant women, although it is the testing of this latter group that has shown the greatest decline in the past few years. The number of tests fell from “close to 2 million in 1992 to 300

000 in 1996". (Hamers, 1997,11). The number of tests of blood donors and pregnant women are shown in Table 2.

What do the data show? It is clear that prior to 1994 Ukraine was not experiencing an epidemic of HIV but rather that there were sporadic occurrences, mainly among non-Ukrainians. However, even at this low level of transmission the infection had reached all *oblasts* (administrative regions) of the country. Since 1994 the vast majority of those infected are Ukrainian. The male:female ratio is uneven, with more males than females being infected (4130 to 1270 in 1996), and the majority (>70 per cent) of new cases are among IDUs.

Two questions arise from this. Firstly, where is the epidemic located? Secondly, how many people are actually infected?

The Location of the Epidemic

Typically, HIV is tracked through testing of specific groups considered to be at high risk. These include TB patients, commercial sex workers, people with sexually transmitted diseases and IDUs. In Ukraine, TB patients are not categorised, and there are little data from CSWs; in 1996, of 539 CSWs tested, none was HIV-positive.

Data on STDs, other than HIV, are puzzling. The number of syphilis cases rose from 5,229 in 1991 to 77,345 in 1995, but gonorrhoea cases fell, from 54,319 cases in 1994 to 38,167 in 1996. Health service staff thought that people with gonorrhoea were increasingly seeking treatment privately, thus avoiding the stigma of visiting State facilities, while syphilis is more serious so patients continue to visit government treatment centres.

There is more information on IDUs, the group where the spread of HIV has been most rapid. In 1996 there were 51,681 drug users registered with the Narcology Dispensaries of the Ministry of Health and 63,450 registered with the police. It is estimated that this was about ten per cent of the national total. Eighty five per cent use drugs intravenously.⁵ In the worst affected regions, up to 18 per cent of IDUs

are already infected. A recent paper provides evidence for the continued spread of HIV in this group. The figures for actual detected HIV cases in drug users were 1049 in 1995, 5729 in 1996, 7950 in 1997 and 5574 in 1998, although the apparent decline is probably due to data collection and reporting rather than a real decline (Rhodes et al, 1999). Although there are centres in Ukraine where drug use is particularly common, it reaches all areas of the country. There is some evidence that drug dealers are targeting the smaller urban centres, and even the rural areas, as larger markets become saturated. The drug of choice is locally made *kompot*.

There is virtually no information on the prevalence of HIV in the homosexual community. Homosexuality was illegal during the Soviet period. Thus homosexual and bisexual men would not identify themselves or come forward for testing. During fieldwork, informants suggested that the homosexual community had tended to respond to the epidemic and therefore it was largely under control in that group.

The blood donor population may be a useful marker of the epidemic provided it is drawn from the same type of people over time. Informants reported that there has been a trend towards paid donors in Ukraine. This may account for the rise in the number of HIV-positive samples detected in the population - see Table 2, and means that these data are not very revealing.

In countries facing an HIV epidemic in the broader population, the antenatal clinic attendees are taken as a representative source of information. While there is some evidence to suggest that this population will experience a fall in age-specific fertility as the epidemic matures (International Union for the Scientific Study of Population, 1997), at the current stage of the Ukrainian epidemic they still provide the sample group which is the best proxy for the wider population. There has been a fall in the number of women tested. Today in some regions, testing of pregnant women is not carried out at all, while in others large numbers are tested. Women may be tested more than once in their pregnancy in some *oblasts*, while in others they will have only one test. There is regional variation in HIV prevalence in this group with the highest levels in Nikolayev at 0.24 percent of pregnant women. (Dehne et al, 1999).

Numbers infected.

The question that remains is how many HIV-infected people are there in Ukraine? Firstly, there are those who are registered as HIV-positive. In order to be registered, a person must have tested positive, the result be confirmed, and the person subjected to a clinical examination. In the early years of the epidemic, this would have been a full clinical work-up; now it is most likely to involve an interview with an epidemiologist. There are currently 12,000 people registered according to these criteria. All positive HIV tests are recorded and there have been 25 000 such tests. The people tested may not be registered because the clinical investigation has not been carried out, or the result duplicates previous tests. For example in "Nykolyev, it is estimated that only 10 per cent of people with an HIV-positive test will be registered" (Hamers, 1997, 14). Without total coverage, there can be no certainty as to the number of people infected and, without proper sentinel surveillance, it is difficult to estimate the level of infection. During fieldwork, estimates of between 60,000 and 180,000 were put forward. Interestingly, the research by Hamers suggested that only 10 per cent of HIV-positive people are registered. This would give a figure of 120 000 HIV-positive for the whole country – conveniently exactly halfway between the estimates. The UNAIDS figure for the end of 1997 is 110000 (UNAIDS, 1998b).

In summary the limited data indicate that the HIV epidemic now poses a serious problem in Ukraine. From sporadic occurrences among foreigners it has spread rapidly among the intravenous drug using population, and there are significant increases among pregnant women and blood donors. This means that HIV could be bridging to the general population. What is not clear is how susceptible this population is, and how far and fast HIV will spread. The best estimate for numbers of HIV infections at the end of 1997/beginning of 1998 was 110 000 to 120 000. Even if there were no new infections the number of AIDS cases and deaths will increase.

AIDS Data

Up to the end of 1997 a total of 419 AIDS cases had been reported in Ukraine (UNAIDS, 1998b). There are serious problems with these data. As has been noted above, AIDS cases have to be fully

investigated and diagnosed by the regional centre before the confirmed reports of cases are sent to the central authority. Problems in data construction which arise from these procedures include:

- The lag in reporting and recording cases.
- The fact that there are only three specialised HIV clinical centres in Ukraine that can diagnose AIDS, and as the epidemic gains momentum they are overwhelmed.
- General difficulties facing all sectors of the health service.

Of the 228 AIDS cases diagnosed to the end of 1996, 84 had been registered as HIV-positive at the same time as being diagnosed with AIDS, and 60 had been diagnosed at the same time as they had died. This shows that most HIV-positive people are not being identified in advance of falling ill. The number of AIDS cases is probably greatly underestimated.

Projecting the Epidemic

As part of the original research, projections were prepared to assess what the epidemic might look like in the years ahead. Preliminary projections were produced using available data. These results were discussed and reworked following discussions within the research team and comments from key informants⁶.

The projections presented here are not intended to be forecasts of what *will* happen, but should be seen as *possible* ways in which the epidemic might develop without intervention. It is very difficult to make accurate predictions as the type of data needed to run this, (or indeed any model) are simply not available. The crucial question is how and at what rate will HIV spread from those at greatest risk of infection to the broader population, something this article and the methodology proposed in it, seek to predict. AIDS cases for the next five or so years can be predicted with greater accuracy, as people who will fall ill and die are, for the most part, already infected.

Two scenarios were developed in the model. The first assumes that the HIV epidemic in Ukraine will follow a pattern similar to that seen in parts of Western Europe. Here infection spread primarily among

injecting drug users, with little significant spread into the general heterosexual population. It does, however, accommodate the higher numbers of drug users encountered in the Ukraine, as well as the rapid spread of HIV amongst IDUs. The model yields a peak adult prevalence of around 1.4 per cent in 10 years time. This is referred to as *Low AIDS* in the tables.

The second scenario assumes rapid spread of HIV, and significant spread into the heterosexual population. This follows a pattern more similar to that seen in South-East Asia and Brazil. A peak adult prevalence of about 3.9 per cent is reached in 2011. Brazil, with its rapid spread of HIV amongst IDUs and a moderate spread in the general population, provides lessons for Ukraine. The IVDU epidemic in Brazil is levelling off at 30 per cent, and the prevalence amongst urban IDUs in Brazil and Argentina has been measured at between 30 and 60 per cent. There has been significant spread from this high-risk group into the general population, in cities such as Santos City, where the antenatal infection prevalence rate has been measured at between 1 and 3 per cent (UNAIDS Fact Sheet, 1996). This scenario is referred to as *High AIDS*.

The epidemic will have a significant effect on rates of morbidity and mortality and the consequent effect on the demand for health care and resources. However, the prevalence levels likely over the next twenty years will not result in major changes to the population structure. The effect of AIDS may be to reinforce and exacerbate existing demographic trends.

The results of the projections are shown in Table 4 which gives number of HIV infections, AIDS cases, and AIDS Deaths. The projections were discussed extensively both in the Ukraine and subsequently. In particular we contacted Françoise Hamers who had also carried out some modelling work. Her comment was that the projections, including the low one, were too high, the argument being that the 1998 estimate of 60 000 infected IDUs is too high and not based on firm data. Dr Hamers says "I think that sexual behavioural data and drug use behaviour are needed to make better models. We don't know very much of what is going on in this part of the world where things are also changing rapidly". (Personal communication by email, Françoise Hamers, March 1998).

These points are well taken and there is a need to revisit the projections with better data. Until there are better data, the quality of models will depend on the information given to the modellers, their brief, the interpretations of existing data, and assumptions as to what will happen. However, the information is included as the principles and lessons do not change, although the next section and tables should be read with these caveats in mind.

The high scenario, with significant spread from the IVDU to the non-drug-using population, shows how serious the impact of HIV could be, with almost 1.5 million HIV infections by 2010. The model shows that there may be between 1 200 and 1 500 AIDS cases in 1997, and by 2003 – only six years away – this will have increased to between 37 800 and 54 100 cases. Given the latent period between infection and death, this is the scale of the problem that will be faced if the current estimates of HIV infections are correct, as most of the people who will present as AIDS cases in 2003 are already infected. Children orphaned (a child under 15 years who has lost his or her mother) through AIDS will increase demands on the welfare system, with an estimated 111 500 (low scenario) to 317 300 (high scenario) orphans by 2016.

HIV prevalence is expected to reach the endemic stage by 2012 in the low scenario and 2014 for the high scenario. Due to the time lag between HIV prevalence and AIDS morbidity and mortality, the full impact of the AIDS epidemic will not have been seen by the year 2016. The impact of AIDS will continue beyond the 20-year time frame of the model.

Methodology: Susceptibility and Vulnerability to HIV and AIDS

If the epidemic is set to spread beyond the drug users into the broader population (drug users have sexual lives), a key question to address is the likelihood and rate of “bridging”. If bridging occurs, the result will be sharply increased morbidity and mortality in the most economically active section of the Ukrainian population. Ukraine already exhibits an extremely unfavourable age structure, with resulting adverse dependency ratio without taking into account HIV/AIDS mortality and morbidity.

One of the main problems in identifying the sectors of the economy and society where the epidemic is likely to be located, and where the impact is most likely to be felt, is the lack of analytical tools. Epidemiologists and public health specialists are well aware of the concepts of risk. However, for non-specialists to understand the implications of an HIV/AIDS epidemic, they need to go beyond this idea. This is especially so if important policy-making but non-medical audiences are to be shown the potential consequence of the disease and the need and ways to respond. Our approach is to use the concepts of susceptibility and vulnerability.⁷

These two concepts may be defined as follows:

Susceptibility describes those factors determining the rate at which the epidemic is propagated.

Such factors may be physical (as in the case of the development of a new road), environmental (such as a drought which results in unusual population movements), cultural (a particular sexual practice or belief), economic (increased unequal distribution of income), or social (operation of labour and associated housing markets in urban areas). This concept may be operationalised at any level, being applicable at the aggregate level of an entire "society" or country, or at the level of a social group such as a friendship network or a household. It may also be applied at the level of meso-entities such as an organisation or manufacturing enterprise.

A society or other social or economic entity in which factors combine to increase the chances of infection may be described as a *risk environment*. In such an environment (for example in a group of IV drug users), **any** activity in which body fluids are exchanged is a risky activity. Thus, it is not the activity alone that is risky; rather it is the environment that makes particular activities risky.⁸ When infection is spread widely in the general population, then an entire society may be said to have made the transition to becoming a risk environment. It will be apparent from what follows that this may already be the case in Ukraine.

Vulnerability describes those features of a social or economic entity that make it more or less likely that excess morbidity and mortality associated with disease will have deleterious impacts upon that unit.

An important component of this concept is the medium- and long- term impact of death and illness on social and economic life.

Once again, this concept may be applied at a number of levels. To offer some examples, a household with only one wage-earner aged 25 is more vulnerable than one in which there are two or more wage earners, one of whom is more than 50 years old. An industrial process plant which depends upon one or two key pieces of equipment with very specialised operatives who are expensive to train, whose training takes place over a long period and who are therefore in short supply, will be more vulnerable than one in which large amounts of unskilled labour are all involved in the same or similar processes.

These two concepts enable us to speak of the *relative* vulnerability and susceptibility of whatever scale of unit we are concerned with. This could be geographic - Odessa and Kyiv or the whole Ukraine; sectoral - the fishing industry or the coalmines; social - IDUs or housewives; or occupational -civil servants or truck-drivers. Relative susceptibility will affect the gradient and the peak of the epidemic in a specific population or population sub-group, while relative vulnerability will describe the degree to which a social or economic entity is likely to be adversely affected by excess morbidity and/or mortality in the population over a period of time.

Some of these relative levels of susceptibility and vulnerability may be expressed in quantitative terms (as in the case of rates of rural-urban migration - which may be an important factor in relative susceptibility). Others may be expressed in qualitative terms (such as the enhanced rates of infection associated with particular balances of power between men and women and the ways that these affect sexual partner choice or lack of choice).

The concept of vulnerability refers to a complex of effects. These include:

- (a) the likelihood that raised morbidity and mortality will have adverse effects as illustrated above.
- (b) those features of a social or economic entity which make it more or less likely that it will be able to respond to or cope effectively with raised mortality or morbidity and for how long.

Examples might include:

1. in the case of a country such as the USA, the fact that increased death and illness will impact upon an already well-resourced (if unequally available) health sector which would have to face enormously increased rates before it began to fail;
2. an urban household consisting of a single mother and her child with some occasional assistance from other sources. Such a household is clearly extremely vulnerable to the illness or death of the sole breadwinner and domestic manager. This aspect of vulnerability may be described as the response capacity of the unit in question. Response capacity may be taken to describe the potential speed and effectiveness of the response.

Thus a society, community or group might be described as *susceptible* to infection by a disease, but *vulnerable* to its effects. The processes which determine susceptibility and vulnerability are complex and incompletely understood.

However, experience from other epidemics suggests that among the key factors which determine susceptibility at the level both of a society in general and of social sub-groups are: aggregate income, income inequality, the degree of social control or the ability to mobilise resources, the level of social order, the extent of population movement, sudden and unpredictable political and economic change, sexual attitudes, behaviours and practices, general level of health in the society (in particular rates of STIs).

Determinants of vulnerability appear to revolve around factors such as: dependency ratios, labour and skill shortages in production or social and economic maintenance processes, pressure on social reproductive activities, the depth of resource availability, the degree to which social effort to cope with the effects of excess death and illness can be mobilised. The latter factor is of considerable importance and appears to be related to the response capacity of both the state and the non-state and non-household sector (sometimes referred to by the term 'civil society').

The article explores features of Ukraine that might make it particularly susceptible and vulnerable.

The Macro - Environment for HIV Spread and AIDS Impact -

Transition and its Effects on Economy and Society

HIV spread and AIDS impact do not happen in a vacuum. They have to be seen in the economic and social context. In area Ukraine is the largest country in Europe and ranks fifth in population. However since the break-up of the Soviet Union it has experienced deterioration in economic and social conditions.

The economy in particular has been in crisis since 1991 (Table 5). Ukraine inherited a deteriorating and structurally unbalanced economy. Under the Soviet system, three-quarters of Ukraine's production was tied to the military and heavy industry. Only one quarter was directed to the manufacture of consumer goods. Centralised planning of the economy combined with the absence of competition resulted in inefficient industry and agriculture. However, the system was geared to providing for all the needs of citizens at subsidised prices. This covered everything from health care to holidays and from transport to TV. Currently the country is undergoing a painful adjustment aimed at transforming its economy from central planning to a market system.⁹ This has serious implications for the wealth and income levels of the citizens, in particular the decline in provision of services, provided by the state under the Soviet system, together with a progressive removal of income subsidies. The economic crisis creates an environment for the spread of HIV, but leads to a reduced capacity to respond.

Since independence the national output has declined every year, the consequences being fewer goods, jobs and resources for the population, a decline in the government income base and a growth in the need for social services. The World Bank has tracked the decline in GNP per capita, in 1993 it was US\$2340, in 1997 \$1630 and by 1999 had fallen to \$1040 (World Bank, 1993, 1997 and 1999). Falling per capita incomes have been mirrored by inflation, which has caused a further deterioration in living standards.

Income and Expenditure

Households and wage earners have seen their real incomes decline precipitously. According to the United Nations (1999) over 63 per cent of Ukraine's population has incomes below the poverty line. The only former Soviet State with more poverty is Moldova (66 per cent). More than one third of the population has an income below the official level entitling a family to subsidies for housing, public utilities and social assistance.

The number of people in formal sector employment has declined. Between 1990-1996, the number in employment decreased by 9.5 per cent. In 1996 7.6 per cent of the 15-70 age group were registered as unemployed. This represents a marked change from the previous 'unemployed' rate that was officially near to zero. Women are being affected worst. Hidden unemployment further confounds the picture, with 17.7 per cent of those recorded as "employed" being on unpaid or partially paid leave and 5.6 per cent working a shortened working day (Ukraine Statistical Annual, 1995. - Kiev: Technika, 1996. - p. 88, quoted in UHI Report, section 1). People actually in employment may face delays of several months in the payment of their wages or be paid in kind. All these factors contribute to reduced living standards and the growing challenges faced by the working-age population.

The decline of living standards below subsistence levels is indicated by sharp increases in the percentage of household income spent on food. In the year of research this was about 57 per cent of total income (Ukraine Health Initiative, section 1, no page numbers). This leaves less money for other expenditure and it is clear that Ukraine's population is becoming less well nourished and less healthy. This increases both susceptibility and vulnerability.

In the past, the state would have provided a safety net through social assistance and services. However the availability of state-provided services has been reduced and the quality has fallen. In some cases unofficial and informal user fees have been introduced. The result is that households and individuals are being forced to adopt new means of making a living, some of which make them susceptible to HIV infection. The extreme example is of young women entering the sex industry either in Ukraine or abroad in western Europe and the Middle East, but it might include female traders

crossing international borders – a few of whom apparently trade sexual favours for assistance in evading customs dues. At the same time lack of employment may force others into crime or self-destructive behaviour such as alcohol or drug use, which again increases susceptibility.

The decline in household incomes will also have an impact on vulnerability, as households become less able to cope with the demands that the AIDS epidemic may place on them. There is also the question of the impact on groups such as the elderly, who might have expected some support from their extended families. This is already reduced and AIDS can only exacerbate the situation. Ukrainians have the oldest average age in Europe, and per capita one of the largest numbers of pensioners. Under the Soviet system a pension was provided by the state. Money did not come from investments but from current revenue. The decline in government revenue has been reflected in a decline in the real value of pensions as well as delays in paying them.

Income distribution in Ukraine is becoming polarised. In 1995 the income of the 10 per cent of the population with the highest incomes was 12 times greater than the income of the 10 per cent with the lowest incomes. In other societies this has been observed to lead to the creation of a market for sex. Men tend to be wealthier and buy sexual favours from poorer people - generally women.

The exception to the generally impoverished state of Ukrainian society is the small group of business and “third sector” entrepreneurs (some of whom make up the richer segment referred to above). It is to these people, and their foreign counterparts, that the government looks for economic growth. Insofar as this group may be susceptible to infection because of *higher* than average incomes and particular lifestyle choices available to them, the AIDS epidemic may require some revision of this assumption.

Government Revenue and Expenditure

Ukraine has one of the most heavily taxed populations in the world. Despite this, revenue over the past few years has declined. This is partly due to the growth of the large informal sector along with the

“informalisation” of many of the existing enterprises - paying employees in kind and bartering.

One of the consequences of the projected increase in AIDS cases will be increased calls on state expenditure. However this has to be seen in the context of the current status and levels of public expenditure. A recent World Bank public expenditure review found that there had been deterioration in health conditions in Ukraine, with life expectancy declining, infant mortality increasing and the re-emergence of infectious diseases. Real health expenditure has fallen by 51 per cent and health policies remain unchanged. The Bank report argues that the government should change its role by “ (i) focusing on the provision of cost-effective primary health care; and (ii) building a capacity for quality and safety control for vaccines and pharmaceuticals, while leaving their production, importation and distribution to the private sector.” (World Bank, 1997c, p24.) There was no mention of HIV or AIDS or of the potential consequences for public expenditure, let alone the health sector.

Ukraine as a risk environment

The break up of the Soviet Union had acute social, political and economic implications for the newly independent Ukraine. The Soviet system operated via four main mechanisms, the party, the internal security apparatuses, the official trade unions, and the state administration. Entitlements to social, economic and cultural goods were largely administered within this structure. To a considerable degree, this was also true of personal identity, expression and morality (at least at the public level).

Acute economic decline has resulted in negative growth rates, while unemployment and underemployment (characterised by short- and part-time working) have become widespread. In some cases, this crisis of employment is geographically concentrated. For example, in areas of heavy industry, such as Donetsk, entire communities have seen their economic base disappear. Given the known association between high unemployment, alcohol abuse, domestic violence, IV drug use, increased migration and possible increased rates of sexual partner change, together with movement by some women into regular or occasional commercial sex work as a survival strategy, there may be specific regions and communities which are particularly susceptible to increased disease incidence.

For many people, the only way to survive has been through entering the “shadow economy”. This is by its nature unregulated, unaccounted and often involves activities that are at the very least on the borderline of legality. It is not possible to survey these data here, but it is reasonable to conclude, from the Ukraine Health Initiative Report and World Bank studies that substantial sections of the Ukrainian population are having to work extremely hard to survive. In these circumstances, most households have difficulty in making a living, but single-parent households, the elderly and other vulnerable groups are finding it particularly hard.

Factors Contributing to Susceptibility

The absence of civil society

The term “civil society”¹⁰ is used to describe those social institutions and activities that are located between the intimacy of the household and the expressly public arena of the state apparatus. Under the Soviet system, such areas of life were hampered in their development by a combination of official suspicion and obstruction. It was also the case that official mechanisms often existed to meet these social, economic and cultural needs and aspirations for many sections of the population. With the political and economic changes that are in train, there is a marked gap in provision of these ‘goods’. Material survival is increasingly the business of the individual and the household.

What the “absence of civil society” means in practice is that this is a period of great uncertainty. At the political level conditions are uncertain, and the same is obviously true at the level of economic life. This may be described as a crisis of legitimacy, meaning that people are not clear as to what it is reasonable to expect of each other, what are “correct” or “acceptable” values and how and where (in terms of social space) to organise to achieve the goals that they desire. There is a lack of skills and capacity to manage the kinds of activity which contribute to an effective civil society. The non-government or “third sector” requires a wide range of skills and capabilities and has to compete for these in the general labour market. It is less able to offer wages that are equal to those in the

developing private sector, and often faces problems of funding sustainability as well as having to adjust its goals to fit with those of (usually) external funding sources (such as the Soros Foundation or the UN system). Labour market competition, skill shortages, funding problems and uncertainty about working methods all contribute to a general difficulty of innovation in an uncertain situation.

In the context of susceptibility, the importance of this is that individuals and households are forced to explore whatever ways become available to them in order to achieve their economic, political and cultural goals. The only solution in such circumstances is recourse to a world of individuals and households but this does not seem to be a cultural feature of Ukraine's family system. In such circumstances, and in marked contrast to Soviet society and to "Western" and some other societies such as India where there are highly developed civil societies, the degree of social control is weak. Experience from a number of other epidemics suggests that this is a key factor in increased susceptibility (Barnett and Whiteside, 1999).

Gender relations

This term refers to all areas of social, economic and cultural life in which the relations between men and women are of significance. Its concerns are thus very broad and of considerable importance, when looking at the relative susceptibility to infection of whole populations and population sub-groups. It concerns the context within which sexual relations occur and the factors influencing those relations. In particular, the control which women have over their own sexuality; the degree of choice they have over whether, when and how they have sexual relations. This is important in a situation where the danger is of increased epidemic spread into the general population.

Evidence suggests that women are disadvantaged. The Ukraine Health Report, stated that 70 per cent of women reported "humiliation"¹¹ in the home; 60 per cent discrimination in the workplace; and 50 per cent, sexual harassment. More generally, according to the *Health 1996* survey (UHI Report, 1997, section 9, no page number), "only 41.97 per cent of women are fully satisfied with their family (interpersonal) relations at home ... and only 45.5 per cent of women ... indicated that they were

satisfied with their sexual life. Marriage and family life, including sexuality, obviously leaves much to be desired in Ukraine for most women. The rising divorce rate (currently about 50 per cent of marriages) confirms these sociological research findings.” What this means for men is currently unexplored or unrecorded. It is not unlikely that their response to all the social and economic pressures, and in particular to unemployment, may be to take refuge in alcohol abuse, violence and a search for alternative sexual partners with consequent implications for susceptibility.

In housing conditions, where accommodation is cramped and often shared with relatives, it is not surprising that personal relationships are often strained, particularly when this is combined with excessive and possibly increasing alcohol consumption, unemployment and other problems. Increased pressure upon and uncertainty regarding housing associated with breakdown of the system of central allocation and control can only add to these pressures upon domestic relationships.

In the current period of rapid social and economic change, people report a transition in sexual attitudes and behaviours to more “liberal” Western norms. Breakdown of the Soviet system of surveillance of private behaviours, and increased population mobility in search of livelihoods both allow for increased sexual expression. But this is taking place in a society where knowledge of sexual health among both men and women is quite limited and where a common form of contraception is abortion. Condoms are only the second most common form of contraception (20 per cent of women) after IUDs (24 per cent of women) (UHI Report, 1997, section 8, no page number), and men report reluctance to use condoms in established relationships, suggesting greater reluctance in occasional liaisons (*ibid.*).

Against this background, the absence of an effective civil society (which might for example provide personal counselling services), cramped and sometimes insecure living situations, involvement in the shadow economy, un- and under-employment, poverty, women’s involvement in trading activities, labour migration, the opening up of certain forms of sexual liberation, all combine to make gender relations in the domestic sphere more stressed, more uncertain, and more open to negotiation and disagreement. In the non-domestic sphere the same is also the case.

In the employment sector, the labour market is certainly going to reflect these gender inequalities existing in society more widely. These will also disadvantage women and force more of them into livelihood strategies, which are likely to include a sexual element or expose them to working conditions in which they may be open to sexual harassment or exploitation. Taken together, economic changes, the absence of effective civil society, and changing and uncertain gender relations are all likely to contribute to increased susceptibility in Ukraine.

Social and Economic Vulnerability

Population Structure

A key factor in the ability of any society to cope with increased illness and death is its human resources. Ukraine faces particular problems in this respect because of the age structure of the population and the resulting unfavourable dependency ratio. The population pyramid is shown as Figure 2. Although the demographic impact of the epidemic is unlikely to be anywhere near as acute as that modelled for the Sub-Saharan African epidemic, the age structure in Ukraine will magnify the consequences of prime age adult deaths since they form such a small proportion of the population.

How will vulnerability manifest itself in Ukraine?

The vulnerability of Ukrainian society revolves around the burden which illness and death will place upon social and economic productive and *socially reproductive* capacities in an ageing society. Social reproductive activity refers to those social and economic activities which are largely unremunerated (such as childcare, household management, care of the elderly and other dependants) and which do not

enter into any conventional definition of economic activity. These reproductive activities are often done by women and create the conditions whereby much else in a society becomes possible.

Increased dependency ratios in households (and there are already large numbers of one-parent households in Ukraine) with resulting constraints on care of the very young and the very old (in a population which is ageing dramatically) do pose serious challenges to Ukraine in the future, even without an HIV/AIDS epidemic. These “care-dependent” sectors of Ukrainian life are where the impact will be felt. Some of these effects are outlined in the following sections.

Orphans

Consideration must be given to the increased numbers of orphans resulting from the epidemic. Satisfactory estimates of them will depend on the assumptions we make as to likely numbers of infections and AIDS cases. Modelling the demographic effects of the epidemic provides a view of the development of the excess orphan population up to the year 2016. The results are shown in Table 6. What these data suggest is that in contrast to the 8,200 children in institutional care in 1996, by the year 2006 there may be an additional 43 000 to 69 000 orphaned children, some of whom will require institutional care. This is a dramatic increase in demand for care in the medium-term. In the very short-term, by 2002, provision will be required for an additional 11,000 to 14,000 orphans.

The question of their education, training and employment is of great importance. In a society in transition, there is bound to be increased income and status differentiation. In Western Europe and North America, this has resulted in significant fractions of the population being excluded from access to the opportunities and facilities that are on offer. Among the most likely to be excluded during this process of social differentiation are those least able to make demands on whatever systems develop. All orphans will be at risk; all orphans will be in a position where they may grow to disaffected and disruptive adolescence and adulthood. Serious choices will have to be made regarding their care and education.

The Elderly Dependent

Currently available data¹² for the end of 1996 do not differentiate between “old people” and “disabled people”. These data indicate that there were 39,771 from both categories in institutional care at that time. If 10 per cent of these are disabled, then there are currently around 35,500 old people in need of care. The elderly relatives of those who are now assumed to be HIV-positive will be in need of care and may well double this figure in the future. Again, the estimate is open to discussion but the message should be clear. Care of the elderly in an already ageing population with an unfavourable dependency ratio is going to require thought and long-term policy decisions. Any changes currently being considered in health care provision in Ukraine will impact upon these excess orphans and solitary old people, and they will be among those population groups least able to make effective demands upon a system which is dependent upon private insurance provision.

The “New Entrepreneurs”

All Ukrainians take risks. Life in a period of dramatic transition is risky for everybody. However, as would be expected and is becoming apparent, not all are clever or fortunate in their risk-taking.

Entrepreneurial ability is rarely in great supply, and it might be argued that those who are now entering the new middle-class are among the most successful. Neither is it correct to assume that entrepreneurs are only to be found in the economic sphere. Entrepreneurship is essentially a creative activity in which individuals are able to see opportunities for achieving goals. Thus there are entrepreneurs in politics, the arts and in the “third sector”. In a society making the transition to capitalism, these people may be seen as a social investment. They are also, because of their increased income or because of their life style and attitudes, among those most likely to be at risk of HIV infection. Increased illness and death in this group will affect the development of this component of the new Ukraine.

It is not possible to explore this issue with any data. However, it is an area which should be researched both in relation to questions of targeted interventions to prevent infection, and also in terms of the

potential social and economic loss in the event that they are a group which is particularly affected by increased rates of illness and death.

Household Vulnerability

More poor people will be affected than those who are better off because there are more poor people in the society. Thus more poor households will be affected and will be particularly vulnerable to the impact of death and illness. How many such vulnerable households are there in Ukraine and where are they situated?

The frequency of poverty in Ukrainian households increases as the number of child or elderly dependants increases (World Bank, 1996, 15). In some respects, urban poverty is more frequent and deeper than rural poverty (World Bank, 1996, 19) but this is in part a statistical and definitional artefact. It reflects the importance of self-provisioning in rural households. In practice, the nature of poverty differs between urban and rural locations. The former are food-poor, the latter are more likely to be cash and service poor. Both types of poverty result in household vulnerability. As well as urban rural differences in poverty there are also regional differences. The least poor region is in the south of the country, the poorest in the east, reflecting climatic variation and industrial and agricultural history.

Community Vulnerability

Some areas of Ukraine are experiencing levels of unemployment and effective de-industrialisation which are extreme even by current standards.

The heavy industrial areas of Dnipropetrovsk, Donetsk, Zaporizhia, Lugansk, and Kharkiv Provinces are where there may be development of concentrations of households affected by HIV/AIDS. Such communities, which are already particularly vulnerable because of their position in the economic restructuring process, may exhibit a particular vulnerability to the impact of the epidemic. With few resources to fall back on they will find it most difficult to cope. The danger here is that a long-term process of drug use, epidemic spread into an already poor and disheartened general population, and

increased illness and death will lead to communities in which infection increases even more rapidly than would otherwise be the case.

The Current Health Care System

Despite the importance of the impact of AIDS on the health care system, time and funding constraints did not permit proper coverage of this area during the fieldwork. Nonetheless a number of points can be made regarding AIDS and health care and it is flagged as a critical area for further research.

The first, most important and perhaps most obvious, point is that people who develop HIV-related infections will require health care. They come from an age group who are not normally users of health care, and so the demand they create is **additional** to that already being provided.

The existing health care system in Ukraine is poorly prepared for the epidemic. Even if there were no more infections, there may be at least 60 000 AIDS cases. Although health care planners and policy-makers are aware of the constraints in the system and the crisis it faces, they are not aware of the additional burden HIV will create. This will occur in a system where the health budget is shrinking and over-medication and over-hospitalisation, features of the traditional Soviet system of health care, have remained. According to the World Bank there were 39 physicians and 129 health care beds per 10 000 people. This is about six times the lowest supply in OECD countries of 21 beds and 7.3 physicians per 10 000 people. “The hospital admission rate is 24.3/100 population compared to the low OECD rate of 5.5/100; patient days per capita are 4.0 compared to the OECD low of 0.7; and the length of stay is 16.5 days compared to the OECD low of 6.1 days.” (World Bank, undated).

The Impact of HIV and AIDS on the Health Care System.

The major significance of the HIV and AIDS epidemic is that it will put stress on the health care system in Ukraine at precisely the time when it is already under great pressure.

The crucial determinants of the impact on the health care system will be:

- how many people require such care from the state and
- how they are treated.

At present there are three specialised clinical HIV centres in Ukraine. These were established in Kyiv in 1987, Odessa in 1993 and Nicolayiv in 1995. Patients are admitted for two reasons- for initial clinical investigation when they are first diagnosed, and when they are clinically ill. According to Hamer's report "basic conditions of hospitalisation are poor ... at the same time, there is great emphasis and reliance on sophisticated lab. and other high-tech diagnostic procedures ... the law states that HIV-infected persons must be treated free of charge, which has become impossible in practice. Treatment is limited. In particular, PCP prophylaxis is not used, although it is cheap and cost-effective. Zidovudine is given as a monotherapy to people with a CDS count below 200 per μ l. Most tuberculosis (TB) hospitals closed down around 1995 and TB patients now have to pay for drugs, although this does not apply to HIV-infected TB patients." (p.14).

The projections can be used to look at the impact on the health care system (Table 7). The Table takes the low and high scenarios. It uses three (probably conservative) assumptions: that only half of those with AIDS will seek care in the state health care system; that each patient will be admitted for only 20 days care per annum; and that each patient will seek care only during one year. On this basis in 2000 between 324 and 354 beds would be required for AIDS cases, and by 2004 between 1281 and 1982. Increases in AIDS cases will require either an expansion in the tertiary care facilities or decrease in the number of other patients admitted.

A number of points may be made:

- People with AIDS are likely to have fewer resources than the general population and so are more likely to require treatment from the state medical system.
- As the number of adults grows, so will the number of orphans and children with HIV; both groups will require additional resources.
- HIV and TB form a deadly partnership, and this, in conjunction with the emergence of multi- drug

resistance strains of TB, both increases the need for health care resources and the public health hazard.

- Currently resources are being used for extensive screening. Conventional wisdom says that, unless this is accompanied by counselling, it is of little value. The need for targeted screening can be made.
- Resources are also used for extensive investigation, including high-tech interventions. Again the argument can be made that unless they will directly contribute to the patients' well being or are a specific research project, the resources might be better allocated to other needs.
- Finally, as a rough rule of thumb, the expenditure on AIDS patients is proportional to the GDP per capita. Ukraine may well encounter significant problems, because it will face first world expectations without the resources to pay for them.

Conclusion

The data show that HIV was not a significant problem in Ukraine prior to 1994. Although a small number of HIV-positive people were detected, the vast majority were foreigners, and a sufficiently large number of tests had been carried out for these results to be viewed with some confidence. Since then, the situation has changed quite dramatically. There has been an explosion of the HIV epidemic among intravenous drug users, and the number of HIV-positives among other groups has also increased.

The key question is to what extent this will spread into the more general population and, given the immediacy of the epidemic, the shortage of data, and the uncertainty about sexual practices and behaviours in Ukraine, this cannot be predicted with any certainty. Estimates for HIV-positive people in 1997 ranged from 60 000 to 180,000, a very wide difference. Nonetheless, the uncertainty as to the potential size of the future epidemic is not, for this article, all that important because we argue that there will, inevitably, be an epidemic of some magnitude. The aim is to point to the areas of life in Ukraine that make people either susceptible or vulnerable, or both, to HIV and AIDS with a view to intervening.

The overriding factor is that Ukraine is a society in transition. At present the transition has seen deterioration in the economy and in living standards. The society has moved away from the certainties of the Soviet era to uncertainty in most spheres of life - political, economic and social. The article argues that susceptibility – the chance of being infected - is increased by the changes taking place in the society. Essentially, what this means is that there is more likely to be an increase in the numbers of sexual partners and this will be accompanied by increased sexual mixing.

This is because there is more drug use and the drug-using population is more mobile, thus leading to a wider spread of infection. However, if the epidemic is to spread among the broader population it will be through heterosexual intercourse. We argue that there is the probability that Ukrainians may have more partners from wider areas than was the case in the past. The increase in mobility and inequality linked with the reported rise in some sexually transmitted diseases (and the belief that others are not reported but are increasing anyway) indicates that sexual behaviour is changing.

The article shows that Ukraine is also vulnerable – that the epidemic will have an impact. It is certain that there will be an increase in the number of AIDS cases. This is taking place at a time when the State's resources to deal with such impacts are decreasing.

It is evident from other parts of the world that societies in change are susceptible to the rapid spread of HIV. South Africa, which currently is going through the transition from the apartheid to the new democracy has one of the fastest growing epidemics in the world. In Ukraine, the position is compounded by the fact that the transition has been from a period of certainty to uncertainty. However, all is not bleak. The country may have the potential for a major epidemic, but it has the resources to deal with the problem. Ukrainians are highly educated and, for the most part, reasonably healthy. What is necessary is the need to mobilise, to make people aware of the problem, even though there are many other issues that need to be confronted. Finally the conceptual methodology described here and applied in this study is relevant to other countries in Eastern Europe.

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Table 1. HIV Positivity by Transmission Category 1987-94, 1995 and 1996.					
	<i>1987 to 1994</i>		<i>1995</i>		<i>1996[*]</i>
<i>Transmission group</i>	<i>Number</i>	<i>Percentage</i>	<i>Number</i>	<i>Percentage</i>	<i>Number</i>
Foreigners	215	54	9	0.6	22
Ukrainians	183	46	1480	99.4	5400
Of whom Homo-bisexual men	25	6.3	2	0.1	
IDUs	3	0.8	1021	68.6	
Blood Transfusion	5	1.3	0	0	
Heterosexual	103	25.5	304	20.4	
Nosocomial	10	2.5	0	0	
Perinatal	8	2	8	0.5	
Breast milk	2	0.5	0	0	
Undetermined	27	6.8	145	9.7	
Total HIV positives identified	398		1489		5422
* Breakdown by transmission group was not available when the table was prepared.					
Source: Hamers, 1997, Table 2					

Table 2. HIV Tests, Positive Results and Rates in Blood Donors and Pregnant Women in Ukraine.

	1987 To 1994			1995			1996			1997 to June		
	Tests	HIV-positive	HIV-positive /1000	Tests	HIV-positive	HIV-positive /1000	Tests	HIV-positive	HIV-positive /1000	Tests	HIV-positive	HIV-positive /1000
Blood donors	14885029	12	0	1624488	34	0	1408077	398	0.03	877567	518	0.06
Preg. Women	9943576	12	0	373044	8	0	351855	181	0.05	212553	187	0.09

Source: Data provided by Dr Kruglov.

Table 3. Cumulative AIDS Cases by age, sex and transmission category reported to end 1997.

<i>Mode of Transmission</i>	<i>Male</i>	<i>Female</i>	<i>Total Number</i>	<i>Total Per Cent</i>
Adult:				
Homo/bisexual men	20		20	5
IDUs	209	68	277	66
Blood transfusion	1	3	4	1
Heterosexual	47	34	81	19
Undetermined/other	15	7	22	6
Total				
Children:	na	na	15	4
Total	292	112	419	100*

* Totals do not add up due to rounding.

Source: UNAIDS, 1998b, p6.

Table 4. Projections of HIV infections, AIDS cases and deaths.						
	Number infected with HIV.		New AIDS Cases.		AIDS Deaths.	
<i>Year</i>	<i>Low AIDS</i>	<i>High AIDS</i>	<i>Low AIDS</i>	<i>High AIDS</i>	<i>Low AIDS</i>	<i>High AIDS</i>
199 6	20 645	16 516	524	419	85	68
199 7	61 273	61 259	1 501	1 201	524	419
199 8	121 388	137 570	2 215	1 782	1 501	1 201
199 9	201 133	241 383	5 060	4 813	2 215	1 782
200 0	280 430	376 688	11 850	12 927	5 060	4 813
200 1	359 348	527 253	19 999	23 648	11 850	12 927
200 2	430 028	689 130	29 055	37 370	19 999	23 648
200 3	488 254	853 713	37 864	54 113	29 055	37 370
200 4	529 998	1 004 597	46 790	72 355	37 864	54 113
200 5	555 269	1 141 388	54 684	91 806	46 790	72 355
200 6	564 237	1 255 872	61 342	111 351	54 684	91 806
200 7	565 287	1 345 069	66 970	130 325	61 342	111 351
200 8	550 202	1 407 849	70 025	147 123	66 970	130 325
200 9	530 816	1 444 271	70 353	159 903	70 025	147 123
201 0	499 491	1 458 353	68 619	169 144	68 619	169 144
201 1	467 885	1 446 581	65 253	174 688	68 619	169 144
201 2	433 386	1 416 929	61 157	176 635	65 253	174 688
201 3	399 549	1 373 104	55 847	175 142	61 157	176 635

201 4	362 683	1 315 820	50 589	170 262	55 847	175 142
201 5	326 541	1 249 336	45 255	163 472	50 589	170 262
201 6	287 491	1 174 081	40 040	154 959	45 255	163 472

Table 5. Macro-economic Indicators in Ukraine 1990-1995.

	1991	1992	1993	1994	1995
	<i>as per cent of 1990</i>				
Gross national product	92	83	76	57	-
National income produced	87	71	58	43	-
Consumption	95	86	60	56	-
Production: Industrial	95	89	82	60	52
Gross agricultural output	86.8	79.6	80.8	67.5	65.1
Consumer goods	95	86	72	54	45
Food products	87	73	66	54	48
Non-food items	103	98	74	46	32

Source: Ukraine Health Initiative Report Draft. October 1997, no page number.

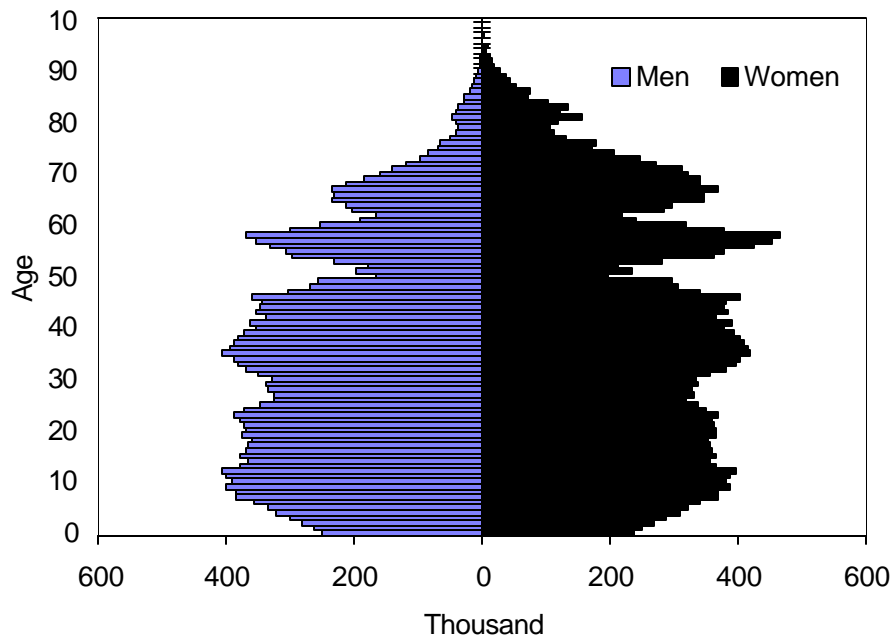
Table 6. HIV/AIDS and Orphaning: Projected Numbers		
Year	Low AIDS	High AIDS
1996	73	58
2001	6 917	7 655
2006	43 220	68 845
2011	88 877	191 804
2016	111 586	317 329

Table 7. AIDS Case Hospital Care Requirements.

<i>Year</i>	<i>AIDS case (low)</i>	<i>Beds for 50%</i>	<i>AIDS cases (high)</i>	<i>Beds for 50%</i>
2000	11 850	324	12 927	354
2001	19 999	547	23 648	647
2002	29 055	796	37 370	1023
2003	37 864	1037	54 113	1482
2004	46 790	1281	72 355	1982

Assumptions: 1. Of the patients with AIDS only 50% seek care in the state sector.
2. Each patient is admitted for 20 days only per annum.

Figure 2. Age-Gender Pyramid, Ukraine, 1996.



Source: Ukraine Health Initiative Report Draft. October 1997, no page number.

¹ The report is available at the British Council website

<http://www.britishcouncil.org/ukraine/english/governance/aids/index.htm>

² The model was run by Greg Wood and Barbara Mason who have carried out this type of work for a number of research projects administered by the first two authors. A full description of the model is included as the first Appendix of the report cited above.

³ This concept has been developed and modelled in the work of Martina Morris and her collaborators. See for example Morris et al, 1995a; 1995b and for a theoretical discussion, Anderson and May, 1992, chapter 11.

⁴ It is important to remember that all data are subject to bias. HIV data may have the following biases: (i) how representative of the general population is the group for which data has been collected? (ii) what differences might exist between urban and rural prevalence? (iii) HIV infection suppresses fertility, this means that prevalence data derived from ante-natal clinic attenders may under-represent prevalence (iii) there are differences in male-

female ratios at various points in the epidemic. For a discussion on data sources and their value see UNAIDS 1998c

⁵ This estimate was shared with the authors during the fieldwork.

⁶ The projections were done by Mason and Wood using data provided L Khodakevich, Y Kruglov, and V Steshenko. They were reworked on the basis of subsequent discussion. See Appendix 1 of Barnett and Whiteside, 1997.

⁷ This concept was been developed in research work in Europe, India and Africa and tested and refined with multinational participants at the Planning for HIV/AIDS Workshops run in England, South Africa, India and Malaysia by Barnett and Whiteside. The theoretical framework has been published in a number of places, most recently in Barnett and Whiteside, 1999, the practical methodology has been described in detail in Barnett and Whiteside, 2000, forthcoming.

⁸ The concept of risk groups and risk behaviours is elegantly postulated in Mann and Tarantola, 1996, p. 431 and p. 444, including a section by Barnett and Grellier. That discussion, and Barnett and Whiteside 1999, refine and seek to operationalise the ideas.

⁹ For a fuller discussion of these processes and the problems associated with them see the 1996 World Bank World Development Report, From Plan to Market, Oxford University Press, New York, 1996 and G Esping-Andersen (ed.), Welfare States in Transition: national adaptations in global economies, London, Thousand Oaks and New Delhi, Sage Publications in association with UNRISD, 1996.

¹⁰ This concept is used as a simple label in this article. The authors are aware of many if not all the debates around the current usage of the term and its peculiar place in the discourse of the World Bank.

¹¹ This included both physical and verbal abuse as well as other types of humiliating behaviour.

¹² Provided by Dr. Valentyna Steshenko, abstracted from official sources.