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HIV in Norway: Knowledge and Attitudes



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Preface

This report presents findings from a survey of knowledge of, and attitudes towards, HIV in Norway. The Norwegian edition of the report is included in Fafo Report no. 2008:21 “Fortsatt farlig å kysse?”, and constitutes part of a more comprehensive project on living conditions among people living with HIV in Norway commissioned by the Norwegian Directorate for Health. Findings from this survey have attracted considerable interest in Norway. This English edition will also make the results available to interested parties in other countries, and hopefully contribute to highlighting the human and social aspects of living with HIV.

The project team has consisted of Roland Mandal, Bjørn Richard Nuland and Arne Backer Grønningsæter (project director). Chapters 3–8 are written by Roland Mandal, with comments and editing by Nuland and Grønningsæter. Planning, elaboration of the questionnaire, discussions, editing and completion of the report, as well as the introductory chapter and the conclusions have been joint efforts. Quality assurance has been provided by Heidi Gautun. The collection of data for the survey was undertaken by Synovate. We wish to express our gratitude for a rewarding cooperation.

We would also like to thank HivNorway and Gay & Lesbian Health Norway for their review and comments to the draft of the report. Further, we would like to thank Per Miljeteig and Evy-Aina Røe from HivNorway and Hedda Bie from the Directorate of Health for their cooperation and input. Arild Johan Myrberg and Yon Eduin Galezo Cardenas in the Directorate of Health provided much-needed support in the initial phase of the project. We appreciate that the Directorate of Health has decided to grant support for an English translation of the survey.

A report on knowledge and attitudes within a field which to date has not been very closely investigated must necessarily comprise a number of personal assessments and viewpoints in the borderlands between politics in general, research policy and factual knowledge. All interpretations and any errors that might occur remain the responsibility of the authors alone.

Oslo, October 2008

Arne Backer Grønningsæter, Roland Mandal and Bjørn Richard Nuland

1 On the project

In 2001–2002, Fafo undertook a survey of living conditions among people infected with HIV in Norway, on assignment from the Ministry of Health and Pluss LMA (currently HivNorway), and with financial support from Health and Rehabilitation. The project published its conclusions in the report “Living conditions and quality of life among people living with HIV” (Fangen et. al. 2002). The main findings from this project have been presented in a summary report published in English (Grønningstøer 2004).

The data analyses and the statistics in the report were produced on the basis of the situation prevailing in 2001/2002. The results from the survey are still in demand nationally and internationally. However, six years have now passed since this survey was undertaken. Major changes have occurred in this field, not least with regard to the development of antiviral drugs. New knowledge with relevance for the present situation is therefore required, and in the autumn of 2007 we were granted funding to undertake a new survey on living conditions among people living with HIV.

In parallel with the start-up of the living conditions survey, we have undertaken this survey of knowledge of, and attitudes towards, HIV in the Norwegian population. This survey constitutes an independent study, and its results are intended to speak for themselves. On the other hand, the results from the survey are essential in order to supplement the results emerging from the quantitative data and qualitative interviews undertaken in the context of the living conditions study.

The first part of the report will present the background for the project and a short historical overview of the HIV epidemic in Norway, as well as some aspects of Norwegian legislation. The latter element has been included because we assume that there is a correlation between legislation and the attitudes prevailing in the population. Chapters 3–8 will present the results of the knowledge and attitude survey, and chapter 9 provides an overview of the main findings in the report.

2 Historical background

AIDS (acquired immunodeficiency syndrome) was first registered in Norway in January 1983, and the disease was made subject to obligatory reporting in the same year (Jakobsen 1998). Since 1986, even HIV (human immunodeficiency virus) has been subject to obligatory reporting, meaning that physicians report detections of HIV antibodies to the Institute of Public Health. Initially, AIDS was defined as an object for surveillance prior to the detection of the HIV virus (Aavitsland and Nilsen 2006). Today it has become clear that AIDS represents a fairly random stage of the gradual deterioration of the function of the immune system among those who are infected. Modern forms of treatment have succeeded in delaying the onset of AIDS, and in some cases prevent it completely. This designation has therefore lost much of its relevance in clinical practices, and physicians use it only to a minor extent (*ibid.*). In this report we will therefore mainly use the designation HIV.

Registrations made by the Institute of Public Health show that at the end of 2007, slightly less than 4000 persons were registered as infected with the HIV virus in Norway, which is a totally different number than what was foreseen by the pessimistic forecasts published during the 1980s. These forecasts predicted that by 1990, Norway would have a total of 3000 cases of AIDS and 30,000 persons who were infected with the HIV virus (Degré 1987, Jakobsen 1998).

The reporting of the HIV situation in Norway as of 31 December 2007 shows that 3787 persons had been diagnosed as HIV- positive (2566 men and 1221 women).¹ During 2006, a total of 276 new cases of HIV were detected in Norway. This was the highest number of diagnoses in any year in Norway, and was mainly caused by a renewed increase in the number of men becoming infected homosexually, as well as a continuing high level of HIV-positive immigrants. At the same time, reports reflect a disquietingly high number of HIV-infected persons who are also infected by other sexually transmitted diseases, like gonorrhoea and syphilis. During 2007 there was a moderate decrease in the number of new infections, and the HIV epidemic appears to spread according to the same pattern as previously. In 2007, a total of 42 persons (31 men and 11 women) were diagnosed following from heterosexual infection while they were residing in Norway. Of these, 26 were men and five were women born in Norway, while the remaining 11 came from immigrant backgrounds. The latter group had mainly been infected internally in the immigrant community in Norway, or while

¹ Source: Norwegian Institute of Public Health (www.fhi.no).

Table 1.1: Development of HIV in Norway.

Mode of infection	>1998	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	Total	Per-cent
Heterosexual	583	58	92	131	105	151	153	163	134	164	141	1875	49.5
Infected while residing in Norway	267	22	27	38	27	28	34	43	33	42	42	603	-
Infected prior to arrival to Norway	316	36	65	93	78	123	119	120	101	122	99	1272	-
Homosexual	669	30	36	32	39	30	57	70	56	90	77	1186	31.3
Intravenous drug use	422	8	12	7	8	16	13	15	20	7	13	541	14.3
Via blood/ blood product	46											46	1.2
From mother to child	17	1	4	3	2	2	5	1	5	6	9	55	1.5
Other/unknown	36	1	3	2	3	6	10	2	4	9	8	84	2.2
Total	1773	98	147	175	157	205	238	251	219	276	248	3787	100.0

Source: Folkehelseinstituttet* (2008).

* Norwegian Institute of Public Health – see <http://www.fhi.no/artikler?id=68062>.

visiting former home countries. Like previously, most men are infected while abroad, and Thailand remains the most prominent place of infection for Norwegian men, with 12 new cases being detected during 2007 (Folkehelseinstituttet 2008).

Since the early 1980s, prostitutes constitute a group that has been associated with HIV and AIDS. For example, the newspapers at that time sometimes had headlines like “Death machines in the red light district.” Nevertheless, it appears as if female prostitutes in Western countries tend to protect themselves, and recent (although limited) research shows that HIV infections among prostitutes in Europe mainly are associated with intravenous drug use, and that HIV is found among less than two per cent of the female prostitutes, with the exception of environments where HIV-infected prostitutes also are intravenous drug users (European Centre for Disease Prevention and Control 2007). To the extent that Norwegian prostitutes constitute a high-risk group, this must be seen in the context of intravenous drug use or immigration from countries where the virus is endemic.²

² Foreign prostitution was established in Norway to a noticeable extent in the late 1980s. Mainly, this involved women from Southeast Asia and Latin America who sold sexual services from apartments and massage institutes in Oslo. However, the proportion of foreign women in prostitution in Norway rose strongly from 2001. Principally, foreign women arrive in Norway to sell sexual services, but even some foreign men are engaged in prostitution. Among the users of Pro Sentret, a total of 74 per cent were of foreign origin, mainly from Nigeria, Bulgaria, Estonia, Lithuania and Romania (www.prosentret.no).

The Institute of Public Health estimates that approximately 2800 persons are currently living with HIV in Norway.³ Half of these are assumed to have become infected heterosexually, of which the majority are immigrants who have become infected prior to their arrival in Norway. The group of men who have sex with men accounts for forty per cent of the HIV figures. If we assume that this group constitutes from three to five per cent of the male population, these figures indicate a strong imbalance among those who are diagnosed with HIV in Norway. Ten per cent have become infected from other sources, mainly intravenous drug use. The number of unrecorded cases in Norway is assumed to be low. It is assumed that 30–50 children (under the age of 15) are currently living with HIV, whereof most have become infected perinatally before arrival in Norway.

The HIV and AIDS epidemic has entered a new phase; it can be described as having assumed a different character than previously. The development of antiretroviral medicines (ARVs) has also increased the probability of living a longer life with HIV than what was possible only a few years ago. With the ARVs and the prospects of a long life, those infected with HIV, as well as their support apparatus, need to relate to issues that they previously have not been required to take into account. Individuals and society must become accustomed to living with HIV as a permanent condition. Today, there is a need for updated knowledge on the importance of medication for quality of life, and on the living conditions of HIV patients. At the time of the previous survey, the development of antiviral drugs was still at an early stage. Today, this development has proceeded much farther, and treatment has become normalized. The virus may still cause serious illness and death, but current forms of treatment have improved life expectancy compared to previous decades. Today, most of those who are infected can live for a long period without any illness, provided that they undergo effective treatment (Lyngstad Vik and Due-Tønnesen 2003). Following a diagnosis, one can expect to be able to receive treatment that keeps the disease under control, and the quality of the methods of treatment is continuously improved. However, there is currently no treatment available that can cure HIV. Life will be changed, also for those who live without any symptoms or discomfort. An HIV infection must still be regarded as a life-long contagious infection involving the risk of transmission to others (*ibid.*). It is essential that infected persons adhere strictly to the treatment plan and that this plan is drawn up on an individual basis, involving ingestion of from two to ten pills per day (Laursen et. al. 2005). Most of the patients find that the medication has an impact at all hours of the day, because the drugs must be taken at specific times, and this has an impact on everyday life (*ibid.*). However, more research is underway, and new and more effective drugs with fewer side-effects are being developed. Some find

³ The estimates are taken from a lecture by Hans Blystad, Institute of Public Health, held at the conference “Better holistic care for HIV-positive patients”, 27 September 2007, Soria Moria Hotel, Oslo.

the side-effects to be very troublesome, and there is an understanding that taking the medication over many years can be stressful.

HIV concerns not only the physical cure and survival, but to an equal extent also the quality of life and opportunities for personal choice (Sangild 2004). It is thought-provoking that HIV has been turned into a considerably taboo subject in a society like Norway, although this can be ascribed to the specific nature of the disease. With his actions, the infected person himself has made the infection possible, and must therefore bear the “blame” for his carelessness and promiscuity (ibid.). Those who currently become diagnosed with HIV can expect to live for many years with the virus and to relate to a disease that entails stigmatization. This means that the HIV patients will develop new premises for how they assess openness about the disease, for example in relation to friends and employers. At the same time, this situation entails more uncertainty with regard to the health services, to private financial matters and to issues related to social benefits and work.

Legislation in Norway

When the living conditions of persons with HIV in Norway are investigated, some aspects of the prevailing legislation are also included as relevant for the lives of HIV patients. For example, one may ask whether legislation can be assumed to contribute to stigmatization of persons with HIV. Legislation includes provisions making persons with HIV responsible for reporting their HIV status, and to practise safer sex. The most relevant points in this context are the Communicable Diseases Act and Section 155 of the Civil Penal Code.

The Communicable Diseases Act

HIV is one among several so-called “generally contagious diseases”.⁴ The rights and obligations of those who are living with a generally contagious disease are regulated by the Act relating to the control of communicable diseases of 5 May 1994 no. 55 (the Communicable Diseases Act – CDA). This act has a key position with regard to efforts to address issues related to HIV. The enactment of an act on control of communicable diseases in Norway reflects society’s need to protect itself against such diseases. The

⁴ Facts on the Communicable Diseases Act are taken from the website of HivNorway: www.hivnorge.no.

CDA has a threefold purpose, which is described in its Section 1–1. First, the Act should serve to protect the population against infectious diseases, a purpose which is served by preventing such diseases and taking measures against their spread. Second, the Act is meant to ensure that the authorities undertake necessary precautions to control the diseases. Last, but not least, the Act shall guarantee the legal safeguards for those individuals who are encompassed by measures taken by the authorities with a view to control communicable diseases.

With regard to the right to receive treatment, Section 6–1 of the CDA states the following: “Any person infected by a generally contagious disease has the right to medical assessment and examination, treatment, care and other necessary help in controlling the disease”. From the definition given in Section 1–3, first subsection, it follows that a person is regarded as infected if he or she is “[...] a person who according to professional assessment can be assumed to be an infected person”. This implies that a person who according to a professional assessment can be assumed to be infected has a legally defined right to undertake a test. Anyone who has been diagnosed as HIV- positive has a legal entitlement to “[...] treatment, care and other necessary help in controlling the disease”. This implies a right to use the specialized health services and a right to receive treatment in the form of medication. Section 1–2 of the CDA defines those who are rights holders according to section 6–1: “The provisions in this Act on services and measures apply to all persons present in Norway”.

The preparatory documents (Proposition no. 91 (1992–1993) to the Odelsting, Control of Communicable Diseases), state the following with regard to how this provision should be interpreted:

This provision implies that all provisions pertaining to services and measures described in the Act should apply to anyone who is present in Norway. The provision does not presuppose that the person in question is a Norwegian citizen, that this person has been present for a certain amount of time, or that he or she works or studies in Norway. This means that even tourists who are on short visits to Norway also are covered by the Act.

This leaves no doubt that persons who are illegally resident in Norway enjoy the same rights as everybody else. The reason why the legislator here has defined the entitlement so broadly is that the purpose of the CDA is to protect society against infectious diseases. In other words, it is in society’s best interest that those who need help in fact are given access to this help.

Section 6–2 of the CDA presupposes that the services and measures taken with regard to communicable diseases should be free of charge. These rights are further consolidated in the appurtenant regulations.

The provision that a visit to a physician in order to be tested or treated for a generally contagious disease should be free of charge for the patient, i.e. not subject to a patient

charge, is defined in the Regulations of 19 December 2007 no. 1761, section 4, no. 7 (Regulations on reimbursement of the cost of medical consultations undertaken as an outpatient in state health institutions that receive operational subsidies from regional health enterprises).

The right to full reimbursement of costs for medicines is defined by the Blue-Prescription Regulations, Sections 4 and 8 (Regulations of 28 June 2007 no. 814). Persons infected with HIV have also been granted an extended right to other health services. The right to receive dental treatment and to a refund of expenses incurred by consultations with a psychiatrist is of particular relevance. The legal basis is here provided by the National Insurance Act (Act relating to national insurance of 28 February 1997), Sections 5–6 and 5–7, with appurtenant regulations.

The National Insurance Act applies to everybody who is resident in Norway, cf. Section 21 of the Act. Anybody who has been present in Norway for a period of 12 months, or who intends to be present for twelve months, is regarded as resident, provided that this residence is legal. According to this definition we can see that persons who are illegally resident in Norway cannot claim any rights with reference to Sections 5–6 and 5–7 of the National Insurance Act. Furthermore, the wording indicates that asylum seekers, for example, are not granted any rights according to these provisions. For this group, however, an exception has been made.

In accordance with Section 2–16 of the National Insurance Act, a particular set of regulations has been enacted on social benefits for asylum seekers and their family members (Regulations of 15 April 1997 no. 315). These regulations stipulate that asylum seekers are entitled to medical services in accordance with chapter five of the National Insurance Act, including the right to receive dental treatment and the right to see a psychiatrist.

The Civil Penal Code, Section 155

Section 155 of the Civil Penal Code deals with exposure of another person to infection by a generally contagious disease. The wording of the section reads:

Any person who, having sufficient cause to believe that he is a bearer of a generally contagious disease, wilfully or negligently infects or exposes another person to the risk of infection shall be liable to imprisonment for a term not exceeding six years if the offence is committed wilfully and to imprisonment for a term not exceeding three years if the offence is committed negligently. Any person who aids and abets such an offence shall be liable to the same penalty. If the aggrieved person is one

of the offender's next-of-kin, a public prosecution shall be instituted only at the request of the aggrieved person unless it is required in the public interest.

The obligation to inform has not been clarified by the courts.⁵ HivNorway therefore advises persons infected by HIV to inform and to practise safe sex in order to avoid criminal liability. The question concerning the obligation to inform has not been ruled on by the courts, but HivNorway has to date registered 14 verdicts passed in accordance with Section 115. In six of these verdicts the aggrieved party had become infected, in the others no contagion had taken place. Sentences have varied from two months to two years and six months. All those who have been convicted have been aware of their status. Section 155 provides an opportunity for sentencing anybody who has sufficient reason to believe that he or she is infected by a generally contagious disease.

The purpose of Section 155 is to protect society. This means that it is impossible to consent to becoming exposed to the risk of infection. In close relationships, prosecution will only be instituted if the aggrieved party reports the case. HivNorway has observed that this may happen in the case of a break-up of a close relationship. In a relationship where one party is HIV- positive and the other party negative, the positive party may become subject to criminal liability if they have practised unprotected sex.

⁵ The review and interpretation of the Civil Penal Code are taken from HivNorway's *Hiv & Jus: Rettigheter for hiv +* (Nese 2004), and from the web meeting with Secretary General of HivNorway, Evy-Aina Røe and Solicitor Inger Lise Hognerud at www.gaysir.no, 8 April 2008.

3 Knowledge of and attitudes towards HIV in the population

Information on the knowledge of, and attitudes towards, HIV is important in order to be able to formulate policies that can serve to reduce the stigmatization and discrimination of people infected by HIV. Even though studies of popular attitudes to HIV have previously been undertaken in Norway (see Rise and Kraft 1992), development of new types of drugs in recent years means that living with HIV today is a completely different matter than it was 15–20 years ago. In other words, there is a need for updated information on the prevailing attitudes and levels of knowledge in today's society.

Similar surveys of attitudes have recently been undertaken in Denmark and Sweden. For reasons of comparability we have chosen to make use of some of the questions from these surveys in our study as well. The study consists of two parts: One part deals with knowledge of, and familiarity with, HIV in the population, and the other part investigates attitudes to different issues and allegations that in various ways impinge on the topic of HIV/AIDS. A core purpose of investigating the level of knowledge as well as attitudes is to study any possible correlations between these. We also ask whether there is a correspondence between the actual level of knowledge and how the respondents assess their own level of knowledge.

4 Methodology: Sample and representativeness

The questions and statements in chapter 4 have been administered to the respondents as part of an ongoing omnibus survey undertaken by Synovate MMI. The sample has been drawn from the population, specifically among persons aged 15 or older who live in private households, and who have a land-line telephone or a mobile telephone. The persons defined in this manner comprise 98 per cent of the individual population in private households, and they are fairly evenly distributed throughout the country. The sample consists of two parts, depending on what type of telephone was used to establish contact. A total of 1002 persons were interviewed by telephone.

The sub-sample for land-line telephones was drawn according to a stratified lottery-type procedure, using the counties as strata. Within each stratum, the sample of respondents was drawn randomly. Consequently, all households with a land-line telephone had an equal probability of being selected. Stratification and weighting were undertaken to ensure that the sample reflects the population to the highest possible degree with regard to key background variables, such as gender, age and region. The sub-sample for mobile telephones was drawn as a pure probability sample from a database of all number series for mobile telephones in the entire country.

To ensure a high degree of representativeness in the sample the respondents were drawn randomly from the total population. This procedure is also required for making statistical generalizations, which constitutes a key purpose of quantitative surveys in general (Ringdal 2001). Table 4.1 below gives an overview of the sample that has been used in this study.

Table 4.1: Composition of the sample by gender and age. Totals.

	15–24 years	25–39 years	40–59 years	60 years and above	Total
Men	80	131	171	112	494
Women	76	128	165	139	508
Total	156	259	336	251	1002

Tests, significance levels and margins of error

Chapters 5 and 6 present a tabular analysis of the questions related to knowledge and attitudes and the distributions of responses that these produced. The correlations that we discuss are those that proved to be significant at the 0.05- level (5 per cent) when subjected to hypothesis and value testing. If a test value has a significance probability less than 0.05 ($p < 0.05$), this means that the probability that the correlation under scrutiny is caused by a coincidence is less than five per cent. The null hypothesis, stating that there is no correlation between the dependent variable in question (Y) and the independent variable (X), will then be rejected. We have, however, also chosen to comment on certain findings that are not significant at the 0.05- level.

In order to investigate whether differences in the distribution of responses between various sub-groups are significantly different from the total, we use a *chi-square test* (χ^2). This test produces a figure that gives information on the correlation between the variables under study. If the chi-square has a value equal to or larger than the critical value, we can reject the null hypothesis of no correlation between X and Y, and keep the alternative hypothesis that a correlation exists between the two variables. The test value is subsequently used to undertake a statistical generalization of a correlation between the variables in the population.

The confidence interval describes the interval on both sides of the estimated value of a population parameter within which we may claim with a considerable degree of certainty that the value of the population parameter is found. We use a 95 per cent confidence interval, which means that we have established an interval that has a 95 per cent probability of containing the unknown value of the population parameter.

Measurable knowledge, indistinct attitudes

While knowledge is a phenomenon that can be operationalized and measured to a considerable extent, attitudes are more ambiguous. One main reason for this is that attitudes tend to be a result of the knowledge and experience of the individual. Furthermore, attitudes will be shaped by norms and rules, both written and unwritten, that surround us in society. Because the importance and weighting of these factors vary from one individual to another, it is obvious that attitudes are complex phenomena which are difficult to delimit and measure. One key difference between knowledge and attitudes is that attitudes involve taking an active stand on an issue or a topic. Attitudes involve making up one's mind, and subjective assessments and any prejudices held by the individual will therefore constitute part of the basis for forming an opinion. In spite of the definitional ambiguity that often characterizes the concept of attitudes,

we are convinced that attitudes are amenable to operationalization and measurement. The method that we have chosen involves formulation of statements that we believe will be able to capture the attitudes of individuals with regard to persons infected by HIV in various contexts, as in working life and with regard to training/education and responsibility for children.

Most distributions of responses in the tabular analysis will be analysed using age, gender and level of education as independent variables, in order to investigate the correlations that may exist between these types of characteristics in the population and their knowledge of, and attitudes towards, HIV.

5 Knowledge and information

Gender, age and knowledge of HIV

In this section we present the results from the questions and statements that were intended to measure knowledge of HIV. The results are presented in trivariate cross-tables, i.e. with one dependent variable (attitude) and two independent variables (gender and age). With the aid of this type of tables we can see how the distribution of responses on the dependent variable is conditioned by the respondents' values on the independent variables. By using cross-tabulation in this manner we can investigate, for example, whether the correlation between age and knowledge is universal, or whether it is conditioned by gender. We have chosen to focus on age and gender, because we believe that information pertaining to these two variables will be most relevant in a perspective related to information campaigns and policy formulation. The same variables were also used in the Swedish study.

Question 1: How do you assess your own knowledge about HIV?

The background for including this question is that we found it interesting to compare the actual level of knowledge among the respondents (which was measured through neutral, factual questions) with their own perception of their level of knowledge. Even though the categorization of the two questions is not identical, it will still be possible to undertake approximate comparisons of the two magnitudes. The distribution of responses may also reveal whether people tend to over- or underestimate their own knowledge.

Three of four assess their own knowledge as good (very good or fairly good, cf. table 5.1). The correlation between age and self-assessed knowledge is significant for both genders. Women tend to assess their own knowledge as good more frequently than men (77.8 per cent and 71.8 per cent respectively). The difference between men and women is significant for the response alternative "fairly poor". The gender differences we observe here correlate with observations made elsewhere in the study, namely that women on the whole have better knowledge of HIV than men. With regard to age, we can see that both men and women in the age group 15–24 years report that they have poorer knowledge than the older age groups. This applies to men in particular. We find this result to be worrisome, not least in light of the fact that 77 per cent of the respondents in the age group 15–24 years report having received information at school or

Table 5.1: How do you assess your own knowledge about HIV? Would you say that it is very good, fairly good, fairly poor or very poor? By gender and age (percentages).

		Very good	Fairly good	Fairly poor	Very poor	Do not know	Total
Men	15–24 years	8.9	39.2	36.7	13.9	1.3	100
	25–39 years	18.3	58.0	22.1	1.5		100
	40–59 years	19.3	60.8	15.8	3.5	0.6	100
	60 years or above	13.4	57.1	18.8	8.9	1.8	100
	Total	16.0	55.8	21.5	5.9	0.8	100
Women	15–24 years	7.8	61.0	22.1	9.1		100
	25–39 years	25.0	57.8	14.1	3.1		100
	40–59 years	24.8	61.2	10.9	2.4	0.6	100
	60 years or above	15.8	52.5	17.3	10.1	4.3	100
	Total	19.8	58.0	15.1	5.7	1.4	100
Total		18 %	57 %	18 %	6 %	1 %	100 %

through educational institutions. These results may indicate that the information and training provided by the school system fall short. We can also observe that compared to the youngest age groups, a larger proportion of the older respondents perceive their own knowledge as adequate. The distribution of responses on the objective, factual questions indicate, however, that the younger generation in fact has better knowledge than those aged 60 and above (see statements 5 and 6). One possible explanation could be that young people are more critical of their own knowledge, and possibly even more aware of the deficiencies in their knowledge.

Our figures show that a higher proportion of respondents who reside in Oslo assess their own knowledge as good, when compared to other regions. This result may have several explanations, and one which is close at hand is that the media tend to portray the HIV issue as mainly a problem of the capital city, largely because the increase in new infections have been highest in Oslo (Folkehelseinstituttet 2008). If we take the entire period into account, we can see that more than half of all persons infected by HIV resided in the city of Oslo or in Akershus County at the time they were diagnosed (ibid.). Consequently, people who reside in the capital-city region may feel a more pronounced closeness to the HIV issue than those in other regions, spurring them to obtain more information on HIV. The degree of urbanization and the wider exposure to various impressions, cultures and social issues may also be assumed to play a role.

Question 2: Where did you obtain information/knowledge of HIV/AIDS?

The purpose of this question is to find out *if* and how people obtain information on HIV/AIDS. The question was posed openly, i.e. without reading response alternatives to the respondents.

Table 5.2: Where did you obtain information/knowledge of HIV/AIDS? By gender (percentages).

Source	Men	Women	Total
Radio/TV	54	53	54
Newspapers/magazines	46	47	47
School/education	27	32	29
Internet	14	10	12
Health services	9	14	11
Friends/colleagues	4	7	6
HivNorway, Aksept, Gay & Lesbian Health Norway, or other organizations	3	2	3
Physicians	2	2	2
Parents/next of kin	1	2	2
Other	14	22	18
None	1	2	1
Cannot remember/uncertain	2	1	1

The table shows that mass media, in the form of radio/TV and newspapers/magazines, are the absolutely most important sources of information on HIV and AIDS. Approximately half of both men and women report that they obtained information through these channels. We can further see that a total of 29 per cent of the respondents report that they received information through school and the educational system. A more specific analysis shows that this applies to the two youngest age categories (15–24 years and 25–39 years). This is not very surprising, given that HIV/AIDS became a topic in Norwegian public discourse only from the early 1980s onwards. Among respondents aged 15–24 years, a total of 77 per cent state that they have received information on HIV/AIDS through school/training. However, that as many as 23 per cent do not report that they have received any information through this channel is even more interesting. What can this observation reveal about the information that currently is provided through the schools and the educational system?

A total of 11 per cent report that they obtained information on HIV and AIDS through the health services. The fact that only two per cent mention their physician is perhaps more worrying, given the role of the physician as the patient's medically confidential expert. The result may indicate that people find this topic to be of an intimate and sensitive nature, and hence as difficult to bring up, and therefore they

tend to turn to alternative channels. Three per cent of the respondents report that they have turned to NGOs to obtain information on HIV. This result indicates that the propensity to contact such organizations is associated with a perceived fear of infection or with an actual infection, or with the experience of infection among close relatives or friends. Given that the declared goal of these organizations is to disseminate better knowledge of HIV/AIDS issues and to counteract prejudices and stigmatization, one could wish that this proportion was higher than only 3 per cent.

Even though the results on the whole are concurrent with those of the Swedish survey, some of the channels are more frequently reported in the Swedish survey (see Herlitz 2008). At the same time, it is difficult to assess the results outlined in table 5.2 as either good or bad, because such assessments will depend on the purposes that were at the base of the population's use of various channels of information. It is possible to distinguish between active and passive collection of information. Obtaining information from the health services, physicians, organizations and friends involves an active and targeted search for information, while, for example, radio or TV can be described as more passive information channels from which people in a more random manner are exposed to information on HIV and AIDS. In this perspective it would be desirable if more people made use of the active channels.

The following statements concern knowledge. All statements have the same response categories: agree, disagree, and do not know/no opinion.

Statement 3: HIV is a chronic disease, with which one can live for a long time, given that proper treatment is provided.

A total of 87 per cent of the respondents agree with this statement, while four per cent disagree. Women agree to a significantly higher degree than men (90 per cent and 84.6 per cent respectively). In addition to better knowledge, one explanation could be that women on the whole are less sceptical than men to persons infected with HIV and to living with HIV. As will be shown below, several results indicate this tendency. It is also worth noting that the age group 15–24 years comprises the smallest proportion of those who *agree* and the highest proportion of those who *disagree*. Both these findings are significantly different from the group as a whole. This indicates that this group poses a challenge in terms of knowledge (cf. the discussion of schools and the educational system above).

Levels of education appear to be correlated with knowledge. The proportion of those who agree to the statement increases with each successive level of education. A more astounding observation is that the proportion agreeing with the statement is lower among those who have a relative or a close friend who is infected by HIV than among those who know someone among their acquaintances, or who know no one who is infected. In addition, a total of 17 per cent of those who have a family member or a close friend who is infected respond “do not know/no opinion” (higher than other

Table 5.3: HIV is a chronic disease, with which one can live for a long time, given that proper treatment is provided. By gender and age (percentages).

		Agree	Disagree	Do not know/ no opinion	Total
Men	15–24 years	64.6	12.7	22.8	100
	25–39 years	84.6	5.4	10.0	100
	40–59 years	93.6	2.9	3.5	100
	60 years or above	85.0	4.4	10.6	100
	Total	84.6	5.5	9.9	100
Women	15–24 years	81.6	3.9	14.5	100
	25–39 years	97.7	1.6	0.8	100
	40–59 years	93.3	2.4	4.2	100
	60 years or above	83.6	4.3	12.1	100
	Total	90.0	2.9	7.1	100
Total		87 %	4 %	8 %	99 % *

* Less than 100 due to rounding

groups). One possible explanation could be that this result depends on the “types” of infected persons whom these respondents know. If most of them are familiar with HIV victims who because of their disease are in dire straits – physically, mentally and socially – it is possible that the respondents on the basis of this experience find it difficult to accept that HIV is a disease with which one can live a normal life. The fact that only 16 respondents in the sample have a family member or a close friend who is infected by HIV implies that the representativeness of this result could be weak. This cannot be determined conclusively, and it applies in any case only to a minute social group.

Statement 4: One can become infected with HIV by having sex without a condom.

The core of this question concerns the use of condoms. In light of the fact that the use of condoms is the most important means of avoiding infection by HIV, it is imperative that people have specific and correct knowledge of such use. Knowledge of the correct use of condoms is of key importance in terms of efforts to prevent HIV.

A full 98 per cent affirms (agrees with) this statement. There are only minor variations between the various subgroups. One finding that stands out is that the proportion of those who agree is significantly lower in the oldest age group (60 years and above) than in the sample as a whole (93 per cent agree, 6 per cent respond “do not know”). One explanation could be that this age group, as opposed to the younger generations, grew up in a time when neither HIV/AIDS nor condom use were topics of public debate. On the whole, however, these results must be assessed as promising.

Table 5.4: One can become infected with HIV by having sex without a condom. By gender and age (percentages).

		Agree	Disagree	Do not know / no opinion	Total
Men	15–24 years	100.0			100
	25–39 years	96.9	3.1		100
	40–59 years	98.8	0.6	0.6	100
	60 years or above	91.2	1.8	7.1	100
	Total	96.8	1.4	1.8	100
Women	15–24 years	98.7		1.3	100
	25–39 years	99.2		0.8	100
	40–59 years	99.4		0.6	100
	60 years or above	95.0	0.7	4.3	100
	Total	98.0	0.2	1.8	100
Total		98 %	1 %	2 %	101 % *

* More than 100 due to rounding.

Statement 5: One can become infected by HIV by kissing a person who is HIV-positive on the mouth.

Questions that measure people's knowledge on causes of infection are essential in efforts to reduce stigmatization of persons infected by HIV. This statement, presented in a more or less identical form, was used in the Swedish (Herlitz 2008) as well as in the Danish survey (Sundhedsstyrelsen 2002).

The table shows that 24 per cent of the respondents believe that one can become infected with HIV by kissing a person who is HIV- positive. The corresponding proportion in the Swedish survey was 20 per cent. The proportion of men who agree is higher than that of women (statistically significant difference). It is further interesting to note that in the two oldest age groups we find a higher proportion who agree with this statement than what is observed in the youngest age groups. This corresponds poorly with the respondents' self-assessments of their knowledge, from which we could see that the younger generation tends to assess their knowledge less favourably than the older age groups. This could indicate that young people in fact have better knowledge of HIV and its causes of infection, but that they also are more critical to their own knowledge. The correlation between age and knowledge is statistically significant for both genders.⁶

Another noticeable observation is that a relatively high proportion of the respondents answered "do not know" to both this question and the following one. In our opinion, this reflects a need for more information and knowledge on how HIV is spread.

⁶ $\chi^2 = 26.922$ for men and 29.913 for women ($p = 0.000$ for both).

Table 5.5: One can become infected with HIV by kissing a person who is HIV- positive on the mouth. By gender and age (percentages).

		Agree	Disagree	Do not know / no opinion	Total
Men	15–24 years	17.7	57.0	25.3	100
	25–39 years	18.5	72.3	9.2	100
	40–59 years	29.8	56.7	13.5	100
	60 years or above	35.7	45.5	18.8	100
	Total	26.2	58.3	15.4	100
Women	15–24 years	23.7	60.5	15.8	100
	25–39 years	10.9	77.3	11.7	100
	40–59 years	19.4	70.3	10.3	100
	60 years or above	30.2	48.2	21.6	100
	Total	20.9	64.6	14.6	100
Total		24 %	62 %	15 %	100 %

Statement 6: One can become infected with HIV by drinking from the same glass as a HIV-positive person.

Even though the content of this question is similar to the previous one, kissing may still be perceived as a more intimate act than drinking from the same glass. The distribution of responses seems to reflect this perception. On average, a total of 13 per cent agree to this statement, in other words, a much smaller proportion than in the case of

Table 5.6: One can become infected with HIV by drinking from the same glass as an HIV-positive person. By gender and age (percentages).

		Agree	Disagree	Do not know/ no opinion	Total
Men	15–24 years	11.4	64.6	24.1	100
	25–39 years	12.2	82.4	5.3	100
	40–59 years	17.0	74.3	8.8	100
	60 years or above	21.2	61.1	17.7	100
	Total	15.8	71.9	12.3	100
Women	15–24 years	17.1	67.1	15.8	100
	25–39 years	8.7	86.6	4.7	100
	40–59 years	7.9	83.6	8.5	100
	60 years or above	14.3	65.7	20.0	100
	Total	11.2	77.0	11.8	100
Total		13 %	75 %	12 %	100 %

the previous statement. Whether this could be explained as an effect of variations in the levels of actual knowledge, or whether drinking from the same glass is seen as less risky than kissing cannot be conclusively determined.

Even here we find fairly large differences between the genders, which confirm the findings described above, that women appear to have better knowledge of HIV. Women give a correct response significantly more often than men (15.8 per cent versus 11.2 per cent). However, the effect of gender within specific age groups is only significant among those aged 40–59. On the other hand, the correlation between age and the dependent variable is significant for both genders. For women, we can observe a curvilinear correlation: The level of knowledge is highest in the two middle age groups, and lowest among the very youngest and very oldest.

Our analyses further show that level of education correlate with level of knowledge. Respondents with a university-level education answer correctly more frequently than those who only have primary education. This correlation is stronger for women than for men. This kind of correlation between levels of education and knowledge of HIV/AIDS has also been identified in previous research, for example see Rise and Kraft (1992). We will return to the effect of education and the other independent variables in the multivariate analysis in Chapter 8.

Approximately 75 per cent of the respondents answer this statement correctly. In the study by Rise and Kraft (1992) the corresponding figure was 76 per cent. This indicates that there has been little progress in the level of knowledge in the population over the past twenty years.

Question 7: Do you know someone who is infected with HIV?

The purpose of this question is to find out more about the closeness people have to HIV. How common is it to know someone, a family member or a close friend, who is infected with HIV? How many people know someone among their colleagues or in their circle of acquaintances? In addition to constituting relevant information on its own, this enables us to investigate whether those who know an HIV-positive person have better knowledge of HIV or other attitudes to persons infected with HIV than those who have no such familiarity.

The table shows that very few respondents have someone in their family or circle of close friends who is infected by HIV. A considerably higher number report that they know someone in their circle of acquaintances (colleagues, neighbours, etc.) who is infected. The most prominent result, however, is that 89 per cent of the respondents do not know anyone who is infected. In terms of age groups, we can see that men in the age group 40–59 and women in the age groups 25–39 and 40–59 more frequently than others know someone who is infected. A possible explanation is that in this age interval people tend to have established a wide network through work, family and the

Table 5.7: Do you know someone who is infected with HIV? By gender and age (absolute figures).

		No, none	Yes, a family member or a close friend	Yes, an acquaintance	Refuse to respond	Total
Men	15–24 years	76	0	2	1	79
	25–39 years	122	4	5	0	130
	40–59 years	139	1	29	3	171
	60 years or above	104	2	6	1	113
	Total	441	7	42	5	495
Women	15–24 years	70	0	6	0	76
	25–39 years	109	2	16	0	128
	40–59 years	141	6	16	2	164
	60 years or above	129	1	9	0	139
	Total	449	9	47	2	507
Total		89 %	2 %	9 %	1 %	101 % *

* More than 100 due to rounding.

neighbourhood/local community, which in turn increases the probability of knowing someone who is infected by HIV.

Because the purpose here is mainly to chart people's closeness to HIV as a topic, the implications of these results are less material. For this study as a whole, and in terms of efforts to reduce stigmatization of people infected with HIV in society, it is relevant to ask the following question: What effects on people's knowledge and attitudes could stem from the fact that so few are familiar with someone who is infected with HIV?

Question 8: Which groups do you think are most exposed to infection by HIV in Norway today?

This is mainly a question that measures knowledge. However, we cannot disregard the possibility that for individual respondents the question may also indicate attitudes and prejudices. For many, this will be a matter of whom they *believe* and *feel* to be most exposed to infection.

Homosexuals, intravenous drug users and prostitutes constitute the groups that most often are mentioned as particularly exposed to infection. These findings are concurrent with findings from previous research (see Kraft 1991), as well as with prevailing knowledge on the groups that in fact are most exposed to infection. The prostitutes form an exception, because they are not exposed in the sense that they often become infected. Prostitutes who become infected tend to do so from intravenous drug use. More women than men tend to believe that prostitutes are exposed to infection. We interpret this not as a difference in knowledge, but rather that men want to portray as harmless a group from which they (at least some of them) purchase sexual favours.

We find it surprising that only five per cent mention immigrants and asylum seekers, in light of the fact that approximately half of those who are infected in Norway come from an immigrant or refugee background. This result could possibly be caused by people hesitating to mention immigrants and asylum seekers out of a fear of appearing “politically incorrect”.

Self- assessed knowledge versus actual knowledge – correspondence or divergence?

As described above, the purpose of asking respondents to assess their own knowledge of HIV is to be able to relate their responses to their scores on the questions that measure actual knowledge. If it turns out that there is a gap between the way people assess their own knowledge and their actual knowledge, in particular if people tend to overestimate their own knowledge, this constitutes relevant information concerning enactment of measures and formulation of policies for this field.

To investigate this issue, we have constructed an index variable based on three of the four statements that measure knowledge. We have chosen to omit the statement “One can become infected by HIV from having sex without a condom.” The reason for this choice was that the question is fairly obvious (as shown by the distribution of responses), and would thereby have served to increase the bias in the observations, making it more difficult to interpret the results.

Table 5.8: Self-assessment of knowledge versus objectively measured knowledge (percent-ages).

		Objectively measured knowledge		
		Good	Poor	Total
How do you assess your own knowledge about HIV?	Very good	85.8	14.2	100
	Fairly good	90.1	9.9	100
	Fairly poor	74.6	25.4	100
	Very poor	70.8	29.2	100
	Do not know	100.0*		100
Total		86.2%	13.8%	100 %

* Only two observations in this category.

The most conspicuous result in the table is that among those who assess their own knowledge as very good, there is a smaller proportion whose knowledge in fact is good than among those who assess their own knowledge as fairly good (85.8 per cent and 90.1 per cent respectively). If we undertake a more specific comparison in relation to the statement “One can become infected by HIV by kissing a person who is HIV- positive on the mouth”, this pattern becomes even clearer. Here, a total of 28.3

per cent of those who state that their own knowledge is good respond with a wrong answer (a larger proportion than among those who assess their own knowledge as fairly good (20.2 per cent) as well as among those who believe that their own knowledge is very poor (26.3 per cent)). In addition, we can observe that the tendency to assess one's own knowledge as good, and at the same time have a weak score on objectively measured knowledge, is far more widespread among men than women (18.2 per cent and 11.1 per cent respectively).

As regards other aspects of the table, we had expected even larger differences in actual knowledge between, on the one hand, those who assess their own knowledge as good and those who give their own knowledge a low assessment on the other. The results show that people's appraisal of their own level of knowledge is deficient. We believe that these findings are important in the context of efforts to counteract prejudices and stigmatization of persons infected by HIV, because people's perception of what they know will tend to establish limitations on whatever information and knowledge that they may want to absorb concerning a particular topic.

6 Attitudes

In this part we will present the results from the attitude survey. Here the respondents were asked to take a stand to a number of different statements intended to measure attitudes to the rights and opportunities of persons infected with HIV to participate in various arenas, like schooling/training, the labour market and in terms of having responsibility for children. All statements had the following response alternatives: fully agree, partly agree, partly disagree, fully disagree and do not know/cannot answer.

Statement 9: People who are HIV- positive should have the same opportunity to participate in schooling, training and work as everybody else.

Because this is a fairly general statement, we chose to present it to the respondents as the first one.

Table 6.1: People who are HIV- positive should have the same opportunity to participate in schooling, training and work as everybody else. By gender and age (percentages).

		Fully agree	Partly agree	Partly disagree	Fully disagree	Do not know/ cannot answer	Total
Men	15–24 years	81.3	13.8		5.0		100
	25–39 years	85.5	13.0		1.5		100
	40–59 years	89.0	8.1	1.2		1.7	100
	60 years or above	76.8	16.1	2.7	1.8	2.7	100
	Total	84.0	12.1	1.0	1.6	1.2	100
Women	15–24 years	79.2	13.0	2.6	2.6	2.6	100
	25–39 years	93.8	6.3				100
	40–59 years	90.3	9.1		0.6		100
	60 years or above	86.3	10.1	0.7	0.7	2.2	100
	Total	88.4	9.2	0.6	0.8	1.0	100
Total		86 %	11 %	1 %	1 %	1 %	100 %

The respondents are nearly unanimous (97 per cent) in their agreement to this statement (fully agree or partly agree), which is a positive result. The correlation between age and attitudes to participation in schooling, training and work is significant for both genders, while the correlation with gender is less pronounced.

In light of the fact that this is a fairly general and “non-committal” assertion, it might not be so surprising that a large proportion tends to agree. We expect other distributions of responses to the other statements, because they have a more specific content, and thereby confront the real opinions of the respondents in a more direct manner.

Working life

The experience of persons who are HIV- positive with regard to participation and inclusion in the labour market will be a core topic in a survey of living conditions among persons infected with HIV to be undertaken by Fafo in the autumn of 2008. The two following statements are intended to measure the attitudes that people in general have to questions related to the rights and opportunities of HIV- positive persons in the labour market.

Statement 10: Persons who are infected with HIV should be obligated to inform their employer and their colleagues about their HIV status.

A total of 60 per cent of the respondents agree fully or partly to the statement that persons who are infected with HIV must be obligated to inform their employers and colleagues about their HIV status. The statement does not specify what such an obligation should comprise or why such an obligation to inform should be required. For many, an obligation would likely be perceived as a statutory obligation to inform employers and colleagues. If this is so, we find the result discouraging, because this acceptance of an obligation to provide information, irrespective of personal considerations, deprives the individual of the opportunity to assess the necessity and appropriateness of being open about his or her diagnosis in the workplace. In practice, only a minor proportion has chosen to reveal their diagnosis to employers or colleagues. In the survey on Danish living conditions, three of five respondents report that they have not told anybody in their workplace that they are HIV- positive (Carstensen and Dahl 2007). There are no particular circumstances that would indicate that matters are different in Norway. Even though the reasons for not revealing an HIV diagnosis may vary from one person to another (for example, those who are able to live a normal life, versus those who keep their diagnosis a secret in order to avoid stigmatization and discrimination), it ought to be considered whether the decision to provide this information should be left to

Table 6.2: Persons who are infected by HIV should be obligated to inform their employer and their colleagues about their HIV status. By gender and age (percentages).

		Fully agree	Partly agree	Partly disagree	Fully disagree	Do not know/ cannot answer	Total
Men	15–24 years	48.1	12.3	18.5	14.8	6.2	100
	25–39 years	34.4	19.1	19.8	23.7	3.1	100
	40–59 years	41.2	16.5	14.1	21.8	6.5	100
	60 years or above	56.3	12.5	10.7	15.2	5.4	100
	Total	43.9	15.6	15.6	19.6	5.3	100
Women	15–24 years	42.9	20.8	26.0	7.8	2.6	100
	25–39 years	26.6	29.7	25.8	14.8	3.1	100
	40–59 years	33.3	20.6	21.8	20.6	3.6	100
	60 years or above	53.2	18.0	10.1	12.9	5.8	100
	Total	38.5	22.2	20.2	15.1	3.9	100
Total		41 %	19 %	18 %	17 %	5 %	100 %

the individual. It cannot be taken for granted that openness is the best alternative in every context, even in a relatively open society like Norway.

As mentioned above, we should take into account that the respondents may have varying reasons and motives for agreeing to this statement. While some agree because they believe it to be in the best interest of the HIV-infected person (because openness is a precondition for enabling the employer to follow up and facilitate the job situation), others may have a more self-centred reason, by being more concerned with the risk of infection and their own safety. Even though most of the respondents may have mixed motives, we are worried that fear and ignorance in the population may have had an impact on the distribution of responses. In terms of age groups, we can observe that the two middle age groups (25–39 years and 40–59 years) most frequently disagree with the statement.

In terms of geography, a more specific analysis shows that people residing in Oslo to a far lesser extent are willing to accept this statement (statistically significant difference from the country as a whole). This could possibly be another effect of urbanization. Compared to people living in smaller towns and rural areas, those living in larger cities to a greater extent become exposed to different cultures, people and situations, and this could contribute to shaping individual attitudes. In other words, the degree of urbanization could have an impact on tolerance to various issues.

Familiarity with someone who is infected with HIV also appears to have an impact on responses. The proportion of those who disagree fully with the statement are highest among those who have a family member or a close friend who is infected with HIV.

This finding may have different explanations. First, it could happen that these persons, through their personal familiarity, to a larger extent recognize that the obligation to provide this information would entail a total curtailment of the opportunities of the individual to choose whether or not to be open about their HIV status. Second, it could very well be that they have personally observed the devastating effects that such openness may bring, and for this reason choose to disagree.

Statement 11: Employees who are infected with HIV must accept that their employers change their job responsibilities out of consideration for other employees in the workplace.

Table 6.3: Employees who are infected with HIV must accept that their employers change their job content out of consideration for other employees in the workplace. By gender and age (percentages).

		Fully agree	Partly agree	Partly disagree	Fully disagree	Do not know/ cannot answer	Total
Men	15–24 years	43.8	18.8	13.8	17.5	6.3	100
	25–39 years	18.3	32.1	19.1	29.0	1.5	100
	40–59 years	22.2	25.1	18.1	29.2	5.3	100
	60 years or above	25.9	29.5	11.6	25.9	7.1	100
	Total	25.5	26.9	16.2	26.5	4.9	100
Women	15–24 years	19.7	25.0	18.4	30.3	6.6	100
	25–39 years	18.1	35.4	22.0	17.3	7.1	100
	40–59 years	14.0	31.7	15.2	29.3	9.8	100
	60 years or above	25.9	24.5	15.1	23.0	11.5	100
	Total	19.2	29.6	17.4	24.7	9.1	100
Total		22 %	28 %	17 %	26 %	7 %	100 %

This statement is fairly similar to the previous one. One key difference, however, is the explicit focus on the consideration of others.

A total of 50 per cent of the respondents agree fully or partly to the statement. Even here, the reasoning behind the responses may vary. We are surprised, however, that half of the respondents accept that an employer may change the job content for a person infected with HIV without a clear definition of why these changes are necessary. Half of those asked thereby directly accept that job contents should be changed out of consideration for others (and not out of consideration for the infected person). When we collate these results with those in table 6.2, it becomes clear that a scepticism towards persons infected with HIV, and to interacting with infected persons in the workplace in particular, is widespread in the Norwegian society. A limited degree of openness

on the part of the infected, and the fact that so few have a personal familiarity with persons who are living with HIV, may explain part of this finding.

Given the fact that the youngest part of the population has grown up with HIV and an increasing openness about this and other diseases, it is surprising that a total of 43.8 per cent of the men in the age group 15–24 years agree fully to this statement. The differences in response patterns between men and women are clearly most pronounced in this age group.⁷

Parental responsibility and care for children

Issues related to children and responsibility for care for them appeal to our innermost thoughts and emotions. Asking the respondents to voice their opinion on the opportunities of persons infected with HIV to have contact with, and responsibility for, children could therefore reveal much with regard to the population's *real* fears of infection and their opinions on the opportunities that persons infected with HIV should have to participate and express themselves in society on an equal footing with others.

Statement 12: It is OK for persons infected with HIV to have parental responsibility.

A total of 88 per cent agree fully or partly to this statement. Men are clearly more sceptical than women. The difference between the genders is most pronounced in the age

Table 6.4: It is OK for persons infected with HIV to have parental responsibility. By gender and age (percentages).

		Fully agree	Partly agree	Partly disagree	Fully disagree	Do not know/ cannot answer	Total
Men	15–24 years	57.5	28.8	1.3	6.3	6.3	100
	25–39 years	67.2	24.4		5.3	3.1	100
	40–59 years	70.3	19.8	3.5	2.9	3.5	100
	60 years or above	46.4	24.1	8.9	9.8	10.7	100
	Total	62.0	23.4	3.4	5.7	5.5	100
Women	15–24 years	62.3	24.7	2.6	5.2	5.2	100
	25–39 years	83.5	15.0	0.8		0.8	100
	40–59 years	78.2	17.6	1.2	1.2	1.8	100
	60 years or above	48.6	27.9	8.6	5.7	9.3	100
	Total	69.0	20.8	3.3	2.8	4.1	100
Total		66 %	22 %	3 %	4 %	5 %	100 %

⁷ The correlation between age and attitude to changing the job responsibilities is significant for the men ($\chi^2 = 28.207$, $p = 0.005$).

group 25–39 years, and the correlation between gender and attitude is significant only for this group. The correlation between age and attitudes to parental responsibility for persons infected with HIV is statistically significant for both men and women. In the table, we can see that for both genders, the very youngest and the very oldest tend to reply “disagree fully” most frequently, and to respond “agree fully” least frequently.

Statement 13: I would not let a person infected with HIV look after my own child/children.

This statement challenges the respondents in a more direct manner than the previous one, by focusing on care for one’s own children.

Table 6.5: I would not let a person infected with HIV look after my own child/children. By gender and age (percentages).

		Fully agree	Partly agree	Partly disagree	Fully disagree	Do not know/ cannot answer	Total
Men	15–24 years	15.0	21.3	22.5	31.3	10.0	100
	25–39 years	13.7	16.8	17.6	48.9	3.1	100
	40–59 years	13.5	13.5	18.2	45.3	9.4	100
	60 years or above	33.0	15.2	9.8	28.6	13.4	100
	Total	18.3	16.0	16.8	40.2	8.7	100
Women	15–24 years	22.7	24.0	13.3	34.7	5.3	100
	25–39 years	6.3	13.3	28.9	47.7	3.9	100
	40–59 years	10.9	13.9	19.4	47.3	8.5	100
	60 years or above	33.1	17.3	12.2	26.6	10.8	100
	Total	17.6	16.2	18.9	39.8	7.5	100
Total		18 %	16 %	18 %	40 %	8 %	100 %

One of three respondents agrees to this statement (34 per cent). The most interesting result, however, is found in the concurrence of response distributions of men and women. Women tended to agree more than men to the statement that persons infected with HIV should be allowed to have parental responsibility (cf. table 6.4), but the degree of *closeness* evidently has an impact. When the question concerns their own children, women tend to become more restrictive. We can thereby see that the character of the questions has an impact on responses, whether they are of a general nature or whether they describe a situation that is of personal relevance to the respondent. This finding highlights the importance of posing specific questions of a committal nature in attitude surveys of this kind.

Responsibility to avoid infection

Statement 14: Everybody has a responsibility to avoid infection with HIV.

The purpose of investigating this statement is to find out to what extent people think that everybody has a responsibility to avoid infection, or whether some have more responsibility than others. The opinions on this issue must be assumed to have a bearing on people's sexual behaviour. A full 98 per cent agreed to this statement, which is a very promising result. Unfortunately, however, responses given to attitude surveys may not always concur with actual behaviour. Our analyses further indicate only minor differences between men and women or across the various age groups. Even in this case, however, the youngest age group appears in the most negative light. Men in the age group 15–24 express most disagreement with this statement (7.5 per cent). Furthermore, the group of women aged 15–24 has the lowest proportion of “fully agree” (and the highest proportion of “partly agree”). In total, these results leave the impression that the youngest age groups are not as willing to accept the fact that everybody has an equal responsibility to avoid becoming infected with HIV.

The issue of closeness

Question 15: Imagine yourself in the following situation: Your new boyfriend/girlfriend/spouse/partner tells you that he/she is infected with HIV. How do you think you would react?

Corresponding questions were asked in the Danish attitude survey (Sundhedsstyrelsen 2002). Here, a total of 45 per cent responded that they would make sure to practise safe sex. As can be seen from table 6.6, the corresponding figure for Norway is 62 per cent. Furthermore, 21 per cent of the Danish respondents reported that they would never have sex with him/her again, and that they would end the relationship immediately. The corresponding figures in our survey are 14 per cent and 25 per cent respectively. A key finding in the Danish survey is that the youngest age group is far more categorical in their reporting of “never have sex with him/her again”. We find this pattern even in our survey. On the other hand, we find no evidence of women being more reserved in relation to having sex with a person infected by HIV than men are, which was reported as a main finding from the Danish survey.

Some results in table 6.6. do not appear to be very consistent, for example that a larger proportion of the women might think that this was not such a big issue, while a larger proportion of the men would have ended the relationship immediately. One

Table 6.6: Imagine yourself in the following situation: Your new boyfriend/girlfriend/ spouse/ partner tells you that he/she is infected with HIV. How do you think you would react? By gender and age (percentages).

		Think that it was not such a big issue	Always make sure to use a condom/practise safe sex	Never have sex with him/her again	Broke off the relationship immediately	None of these/do not know	Refuse to answer
Men	15–24 years	11.0	55.6	18.1	30.1	8.3	4.2
	25–39 years	7.6	61.1	19.1	22.1	11.5	3.8
	40–59 years	5.3	59.6	9.4	26.9	13.5	4.1
	60 years or above	2.4	51.2	7.1	38.1	9.5	2.4
	Total	6.7	58.6	13.7	27.1	11.6	3.9
Women	15–24 years	4.7	70.3	18.8	29.7	6.2	3.1
	25–39 years	2.3	68.8	12.5	21.9	7.9	0.8
	40–59 years	3.6	64.8	9.1	20.7	10.9	4.9
	60 years or above	3.4	58.3	20.3	20.3	6.8	6.7
	Total	3.4	65.9	13.3	22.4	8.7	3.6
Total		5 %	62 %	14 %	25 %	10 %	4 %

possible explanation could be that the respondents in this case could give multiple responses (cf. the values in the columns of the table). Further, we should take into account that for many this is not only a matter of HIV infection as such, but also involves taking a stand on issues of infidelity/unacceptable sexual behaviour. When 13.5 per cent of the respondents report that they would never have sex with the person in question again, this must not necessarily be caused by a fear of infection, but possibly to an equal extent by moral assessments of not wanting to have sex with a boyfriend/girlfriend or spouse who has committed an act of infidelity.

Question 16: How do you think you would have reacted if you were told that a colleague or schoolmate was infected with HIV?

As in the case of several other questions, the aspect of closeness is essential even here. The same question was also asked in the Swedish and Danish surveys.

Almost one in five respondents (18 per cent) would choose to avoid close contact with the infected person. We assume that people perceive the expression “close contact” as comprising the types of social and collegial interaction which is normal among schoolmates and/or colleagues. These results are nearly identical to those produced by the Swedish survey (Herlitz 2008). In comparison, only five per cent of the respondents in the Danish survey reported that they would choose to avoid close contact (Sundhedsstyrelsen 2002).

Table 6.7: Proportion (percentage) that would avoid close contact. By gender and age.

	Proportion that would avoid close contact	
Men	15–24 years	35.0
	25–39 years	12.2
	40–59 years	15.2
	60 years or above	28.6
	Total	20.6 %
Women	15–24 years	26.3
	25–39 years	7.8
	40–59 years	7.9
	60 years or above	23.7
	Total	15.0 %

Again, we can see that the very youngest and the very oldest stand out as the most sceptical groups, and this applies to both genders. Furthermore, we can see that men would choose to avoid such contact to a higher extent than women. A similar pattern also emerged in the Swedish survey.

Among other findings, we can see that 83 per cent of the respondents report that they would have searched for more information on the disease if a colleague or schoolmate was infected by HIV. One key reason could be that people may want to know more about the effects of being infected, with a view to better understand the situation of the infected person as well. At the same time, this finding indicates that in the population in general there is a need for more information on HIV.

Question 17: Do you think that there are certain occupations that are unsuited for persons infected with HIV? If so, which occupations?

This question was posed openly, i.e. without pre-defined response alternatives being read to the respondents. One in three think that persons infected with HIV should not work as physicians or nurses. Further, 12 per cent and 10 per cent believe that infected persons should not work as dentists or paramedics, respectively. The scepticism to having infected persons working in the health services is recurrent. We believe that these results are based on the perception that these occupations involve a large degree of closeness and physical contact, and thereby also a certain risk of transfer of the infection.

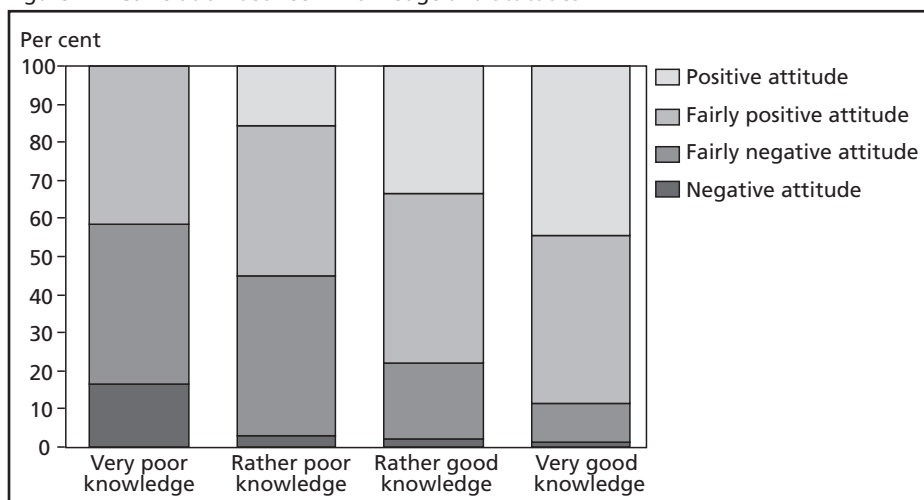
A total of 7 per cent and 6 per cent believe that persons infected with HIV should not work as a cook or as a nursery assistant, respectively. Hardly anyone mentions oc-

cupations like police officer or hairdresser. It is also worth noting that a relatively large proportion responded that they were uncertain or did not know, which indicates that people need time to think through this issue.

7 Is there a correlation between knowledge and attitudes?

To find an answer to this question, we will cross-tabulate a variable that measures knowledge with a variable that measures attitudes. The knowledge variable is an index based on statements 3, 5 and 6, while the attitude variable is an index based on statements 9, 10, 11, 12 and 13. Because these statements are correlated both theoretically and empirically, it makes sense to construct these index variables for knowledge and attitudes respectively. Figure 7.1 shows the result.

Figure 7.1: Correlation between knowledge and attitudes.



The figure shows a clear pattern. Positive attitudes are far more common among respondents with good knowledge, while poor knowledge is to a greater extent associated with negative attitudes. This finding has important implications, not least with respect to policy formulation. For purposes of influencing the population's attitudes and reducing the stigmatization of persons infected with HIV, it will be essential to provide information and enhance knowledge. At the same time, knowledge and attitudes are mutually conditioned, with influences running both ways. While good knowledge often is a precondition for development of positive attitudes, a negative attitude will

act as a barrier against searching for more knowledge about HIV. This correlation between knowledge and attitudes will be further studied in the multivariate analysis.

8 Results from the regression analysis

What characteristics of people can explain their knowledge of and attitudes towards HIV? This question lies at the base of the regression analysis, which allows us to investigate the correlation between a dependent variable (knowledge and attitudes) and an independent variable, while keeping the effect of other variables constant. The multivariate analysis enables us to investigate the causal correlations between various characteristics of the respondents on the one hand, and their knowledge of, and attitudes towards, HIV on the other. Not least, it will be interesting to observe whether the correlations identified so far will hold up to a more rigorous statistical analysis.

Results so far have indicated correlations between age, gender, level of education, and knowledge of and attitudes towards HIV. We have also included income as an independent variable in the model, in order to investigate whether financial position has an influence on people's knowledge of and attitudes towards HIV. We would also like to find out whether knowing someone who is infected with HIV influences levels of knowledge and attitudes. Consequently, we have constructed a variable for this purpose, with the values 0 (knows no one) and 1 (knows someone, a family member, close friend or acquaintance). Furthermore, we would like to investigate whether geographical differences, in the form of region of residence, can explain variations in the dependent variable. Our analyses so far have indicated that place of residence may have an impact on both knowledge and attitudes. We find it interesting to investigate this issue further, and have therefore constructed dichotomous variables for various regions in Norway (Oslo, other parts of Eastern Norway, Western Norway, Møre and Trøndelag and Northern Norway). Oslo will be used as a reference category, and coefficients for the other regions will therefore indicate the effect of living in these regions, compared to Oslo.

Regression 1: Knowledge

Here, the same index variable for knowledge that has been used previously in this chapter will serve as the dependent variable. Because the index variable at the outset had four values, we chose to reduce this to two values and use logistic regression. Since the dependent variable (the logit L) in logistic regression predicts an outcome (yes/no)

on the background of a set of explanatory variables (covariates), we have chosen to call the dependent variable *good knowledge*, with the values 0 = no and 1 = yes.

The table below contains the results from the analysis, including coefficients, standard error of the estimates (expected average deviation between the estimated value and the correct parameter value), odds ratio and significance level.

Table 8.1: Knowledge of HIV, logistic regression.

Variable	B	Std. error B	Odds ratio
Woman	.699***	.226	2.011
Age	-.014	.007	.986
Secondary school	.440	.510	1.552
Upper secondary school	1.202***	.466	3.327
University level	1.256***	.449	3.510
Income	-.129***	.048	.879
Knows someone with HIV	-.389	.324	.678
Eastern Norway, other	-.266	.403	.766
Western Norway	-.288	.430	.750
Møre and Trøndelag	-.193	.482	.825
Northern Norway	-.669	.476	.512
Constant	2.314***	.823	10.112
-2LL = 553,453			
*** = significant at the 0.01 level			

Because these coefficients are more difficult to interpret than those emerging from a linear regression, we have chosen to concentrate on the odds ratio. This ratio describes a change in odds between two different values of a variable. The higher the probability of success, the higher the odds. From the table we can see that the odds ratio for women is 2.011. Recalculated to probabilities, this means that the probability of a woman having good knowledge of HIV is 66.8 per cent higher than for a man. This correlation is statistically significant. Age has a negative effect, but this correlation is not statistically significant. With regard to levels of education, we can see that having upper secondary education or university training increases the probability of having good knowledge on HIV when compared to those with only primary education (the reference category). The analysis thereby confirms the findings described in previous chapters of the report regarding education and knowledge.

According to this analysis, familiarity with someone infected with HIV has no effect on knowledge. In terms of income, we can see that the coefficient is negative and significant, meaning that an increase of one unit on the income variable (for

example, from NOK 100,000 to NOK 199,000) increases the probability of having poor knowledge of HIV. We find this result difficult to interpret.

Regression 2: Attitudes

We will here use the index variable for attitudes, described above, as a dependent variable. At the outset, this variable had 16 possible values, but we chose to reduce these to eight possible values. Thereby, we have a continuous dependent variable with the extreme values 1 = very negative attitude and 8 = very positive attitude. The variable can thereby be regarded as an attitude scale, where the intermediate values between 1 and 8 reflect the strength of the attitudes of the individual.

The independent variables are identical to those used in the logistic regression above. In addition, we want to investigate possible correlations between knowledge and attitudes. We have therefore constructed a variable for knowledge with four values (value 1 = very poor knowledge, value 4 = very good knowledge). The table below gives the results from the regression analysis, showing non-standardized (B) and standardized regression coefficients (Beta), in addition to the standard error of B.

Table 8.2: Attitudes to HIV, linear regression.

Variable	B	Std. error B	Beta
Constant	3.136***	.461	
Age	-.009**	.004	-.094
Gender (0 = man, 1 = woman)	-.067	.111	-.023
Level of education	.267***	.068	.147
Income	.049**	.024	.079
Knowledge of HIV	.609***	.074	.311
Knows someone with HIV	.237	.167	.054
Eastern Norway, other	-.269	.179	-.089
Western Norway	-.268	.194	-.077
Møre and Trøndelag	-.090	.216	-.021
Northern Norway	-.057	.244	-.011
R ² = 0.161			
*** = significant at the 0.01 level, ** = significant at the 0.05 level			

We immediately recognize parts of the results from the cross-tabulations and the logistic regression: Age and education both have a significant effect on attitudes to HIV. While age has a negative effect on attitudes (attitudes grow more negative with increasing age), education has a positive effect (attitudes become more positive with each successive level of education). These findings can be correlated to a study by Kraft (1991), showing that while increasing levels of education caused the respondents to become more accepting of the content of an attitude campaign pertaining to the use of condoms, increasing age had the opposite effect.

At the same time, we find it somewhat odd that the effect of age appears to be negative, given that the response patterns in several of the tables indicate that scepticism to specific questions decreases within successively increasing age groups, at any rate up to a certain point (60 years and above). Therefore, we wanted to investigate whether the correlation between age and attitudes has a curvilinear shape. To test this issue, we included age2 (a second-degree item) in the model. This resulted in a significant effect and confirmed our assumption of a curvilinear correlation. In other words, attitudes grow more positive with increasing age, but only up to a certain age, from which attitudes start to become more negative.

From the table we can see that the variable “knowledge of HIV” has the strongest explanatory power with regard to the variation in attitudes. The correlation between knowledge and attitudes is strong ($p=0.000$), an observation that confirms the findings described in the previous chapters. While gender appears to have no effect, the correlation between income and attitude towards HIV is positive and significant ($p=0.038$). In other words, the probability of having a positive attitude increases with each successive level of household income. This contradicts the finding made regarding knowledge, where the effect was negative. Furthermore, we can see that even here, knowing/not knowing someone who is infected with HIV cannot explain any part of the variation in people’s attitudes.

With regard to region, we can see that people residing in parts of the country other than Oslo on average have more negative attitudes than the reference category (Oslo), when controlling for the effect of age, gender, education, income and knowledge. Even though we can observe a certain pattern that to some extent confirms the correlations between place of residence and attitudes that we have identified above, none of these correlations are significant at the 0.05 level.

From the table, we can also see that the explained variance $R^2 = 0.161$, meaning that our model can explain 16.1 per cent of the variation in the attitude variable. This figure is acceptable, but also indicates that certain relevant explanatory variables are missing from our model.

9 Main findings

- Levels of knowledge vary with respect to gender and age. Women have better knowledge than men, and persons in their forties and fifties have better knowledge than those aged 15–24 or 60 and above. Women aged 25–39 most frequently answer correctly to the questions that measure knowledge. Concerning attitudes, age has a positive effect, but only up to a certain age (60 years and above in our material), from which attitudes take a more negative turn.
- People with higher education have more knowledge of HIV as well as more positive attitudes to the social rights and opportunities of persons infected by HIV. This finding is confirmed by the tabular analysis as well as the regression analysis.
- A total of 75 per cent of the respondents assess their own knowledge of HIV as good (very good or fairly good). Women tend to assess their knowledge as good more frequently than men (77.8 per cent and 71.8 per cent respectively) which, in light of the fact that women tend to score higher on questions that measure actual knowledge, must be assessed as a reassuring result. It is further worth noting that persons aged 15–24 tend to assess their own knowledge as poorer than what other age groups do. Nevertheless, results show that the youngest age groups answer correctly more often than the oldest age group (60 years and above).
- The youngest age group (15–24 years) stands out, both in terms of their weaker scores than other age groups on questions that measure knowledge of HIV and its paths of transmission, and in terms of their more restrictive attitudes to the rights and opportunities of persons infected by HIV to participate in society. The fact that a total of 77 per cent of this age group reported that they received their information on HIV/AIDS through the schools and the educational system makes it opportune to question the quality and effects of the information provided.
- The statements that concern the rights and opportunities of persons infected with HIV to participate in the labour sphere shows that there is widespread scepticism and intolerance in the population. A total of 60 per cent of the respondents agree that persons infected with HIV should be obligated to inform their employers about their HIV status, without any specification of what this obligation should comprise or what purposes it should serve. Furthermore, a total of 50 per cent of the respondents believe that persons infected with HIV should accept that their

employer could change their job responsibilities out of consideration for the safety of other employees. For both these statements, the proportion that agrees fully is higher among the men than among the women. Even here the younger men (15–24 years) stand out as the most restrictive group. The distribution of responses to both these statements indicates that people are willing to accept relatively significant restrictions in the rights and opportunities of persons infected with HIV with regard to making personal choices, and in our opinion, these findings are the most astounding results of the entire study. The situation of HIV-positive persons in the labour market will constitute a key issue in a forthcoming survey of living conditions to be undertaken by Fafo.

- A total of 88 per cent finds it to be OK for persons infected with HIV to have parental responsibility. As many as 69 per cent of the women and 62 per cent of the men agree fully to this statement. With regard to letting an infected person look after one's own child or children, people exhibit a more restrictive attitude: One in three (34 per cent) would not have accepted this. This confirms our hypothesis that *closeness* to the issue at hand has bearing on people's attitudes.
- An overwhelming majority, specifically 98 per cent, thinks that everybody has a responsibility to avoid becoming infected with HIV. In terms of sexual behaviour and prevention of infections, this is an encouraging result. It is worth noting, however, that the proportion who agrees fully is lowest in the youngest age group (88 per cent). When considering that this is an age interval when many start experimenting with sex, this result is worrisome.

On the one hand, it can be claimed that the level of knowledge in the Norwegian population is fairly good. On questions pertaining to the facts of the disease and paths of infection/condom use, a total of 87 and 98 per cent of the respondents return correct answers to the respective questions. With regard to knowledge about how HIV is *not* transmitted (kissing and drinking from the same glass) on the other hand, a larger proportion still answers incorrectly or does not know. This indicates that there is still a need for more knowledge in the population on the paths of transmission and non-transmission of HIV. The study also shows that existing knowledge is unevenly distributed when seen in relation to gender, age and level of education. Men, persons with little education and the very oldest and the very youngest have the least knowledge. What consequences should this finding generate in terms of the measures taken and the policies implemented in this field?

Answers to questions related to children and parental responsibility show that the attitudes change in relation to closeness to the situation. Results with regard to dealing with HIV in the labour sphere represent a considerable challenge for the authorities, not least in terms of combating stigmatization and facilitating openness.

Communicating two key messages to the population represents a core challenge. Today persons infected with HIV can live well-functioning, professionally active and long, rewarding lives. The reverse of this image comprises ill health, side-effects of drugs and the fact that we still have limited knowledge on the long-term effects of these drugs and on life with HIV in general. While communicating a positive message about life with HIV, it is at the same time essential to educate all non-infected persons so that they can protect themselves against the virus. This study on knowledge and attitudes shows that handling this “duality” can be a demanding exercise.

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HIV in Norway: Knowledge and Attitudes

This report presents findings from a survey of knowledge of, and attitudes towards, HIV in Norway. Findings from the survey have attracted considerable interest in Norway. This English edition will also make the results available to interested parties in other countries, and hopefully contribute to highlighting the human and social aspects of living with HIV.

Key findings:

- On questions about condom use, most of the respondents answer correctly. On the other hand, with regard to knowledge about how HIV is *not* transmitted, a larger proportion answers incorrectly.
- Levels of knowledge vary with respect to gender, age and education.
- A majority agree that persons infected with HIV should be obligated to inform their employers about their HIV status. Half of the respondents believe that persons infected with HIV should accept that their employer could change their job responsibilities out of consideration for the safety of other employees.
- A majority finds it to be OK for persons infected with HIV to have parental responsibility. But when it comes to letting an infected person look after one's own child or children, people exhibit a more restrictive attitude.
- An overwhelming majority thinks that everybody has a responsibility to avoid becoming infected with HIV.

The project on living conditions among people living with HIV in Norway is funded by the Norwegian Directorate for health and is carried through in cooperation with HivNorway.

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