



MEETING REPORT

**Infectious diseases and social determinants
Stockholm, 26–27 April 2007**



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INTRODUCTION

Background to the workshop

The European Centre for Disease Prevention and Control (ECDC) is a new agency of the European Union (EU), founded in the aftermath of the SARS pandemic and at the start of the recurrent avian influenza outbreaks in 2003. Its mandate is to identify, assess and communicate current and emerging threats to human health from communicable diseases. While infectious disease mortality in Europe has been dramatically reduced over the last century, communicable diseases remain a public health threat, especially in certain sub-populations. Through a systematic literature reviewⁱ, discrepancies between groups within virtually every European country have been documented for a wide variety of communicable diseases (Table 1).

Substandard education, low income, or other socio-economic factors result in the inequitable distribution of communicable diseases. Disadvantaged groups are especially vulnerable and risk greater exposure to disease because of environmental or behavioural risk factors. These groups also tend to lack access to the healthcare that would prevent the adverse consequences of disease. Tuberculosis and HIV are now endemic in certain sub-populations, while vaccine-preventable diseases and other communicable diseases disproportionately affect marginalised groups. Moreover, the magnitude of morbidity from communicable diseases in certain groups is difficult to quantify since only reported, reportable infections can be estimated. Communicable disease incidence and prevalence are not evenly distributed throughout society which can hasten the spread of infections into the general population.

Table 1: Examples of described differences between groups, by country

Country	Social determinants associated with:	Reference
Austria	Vaccination coverage against tick-borne encephalitis	(1)
Belgium	HIV-1 infection	
Bulgaria	Misconceptions about the transmission of HIV and other sexually transmitted diseases	(2)
Czech Republic	<i>H. pylori</i> infection	(3)
Denmark	Risk of hospitalisation for infectious disease	(4)
Estonia	Syphilis incidence	(5)
France	Tuberculosis in hospitals and prevention units	
Germany	<i>H. pylori</i> seroprevalence rates	(6)
Greece	Incidence of gonorrhoea, syphilis and chancroids	(7)
Hungary	Epstein–Barr virus-positive patients	
Ireland	Clusters of tuberculosis	(8)
Italy	Perinatal hepatitis B screening	
Latvia	Prevalence of gonorrhoea, active syphilis, bacterial vaginosis, trichomoniasis and ectoparasites	

ⁱ See Annex 3 for a description of the review's methods.



Lithuania	Exposure to human papilloma virus	
Luxembourg	Hepatitis A seroprevalence	(9)
Netherlands	Rubella outbreak	(10)
Norway	Hepatitis C	(11)
Poland	Human papilloma virus infections	
Portugal	Hepatitis A infection	(12)
Romania	Paediatric HIV infections	(13)
Serbia	Increase of trichinellosis infections	(14)
Slovenia	Multidrug-resistant tuberculosis	(15)
Spain	Infectious disease mortality	(16)
Sweden	Positive serology for <i>H. pylori</i> and <i>Chl. pneumoniae</i>	(17)
United Kingdom	Meningococcal disease	(18)

These communicable disease challenges have proven remarkably resistant to public health interventions. An abundance of studies have been conducted on individual changes in health behaviour that can help stem the spread of HIV, despite the lower efficacy rates of these interventions in populations with lower socio-economic status. Since not only incidence and prevalence rates are higher in these populations but also response rates to health promotion, interventions should be developed that target the macro-social environment, rather than focusing solely on behavioural change (micro-interventions). This workshop will address this need and generate new ideas to ameliorate the discrepancies between these groups.

The workshop

This workshop on the social determinants of infectious disease was convened by ECDC. Researchers from the infectious disease and social determinant fields were invited to participate. The main objectives of the workshop were to:

- assess the importance of social inequality in the burden of communicable disease;
- identify best practices with respect to addressing health inequalities, used in the field of infectious disease prevention or management;
- develop strategies and measures to address health inequalities arising from social determinants.

This report

This report draws on the information delivered in all the plenary presentations, group discussions and break-out sessions. Discussions are not reported sequentially, nor are the comments attributed. The report focuses on key themes and discussion areas of the workshop and is organised into five main sections:

- Social determinants of communicable disease.
- Disease-specific issues.
- Targeted interventions aimed at overcoming social inequality.
- Policies to overcome social inequality.
- Identifying priority actions.
- The final chapter summarises the main conclusions and next steps from the workshop.

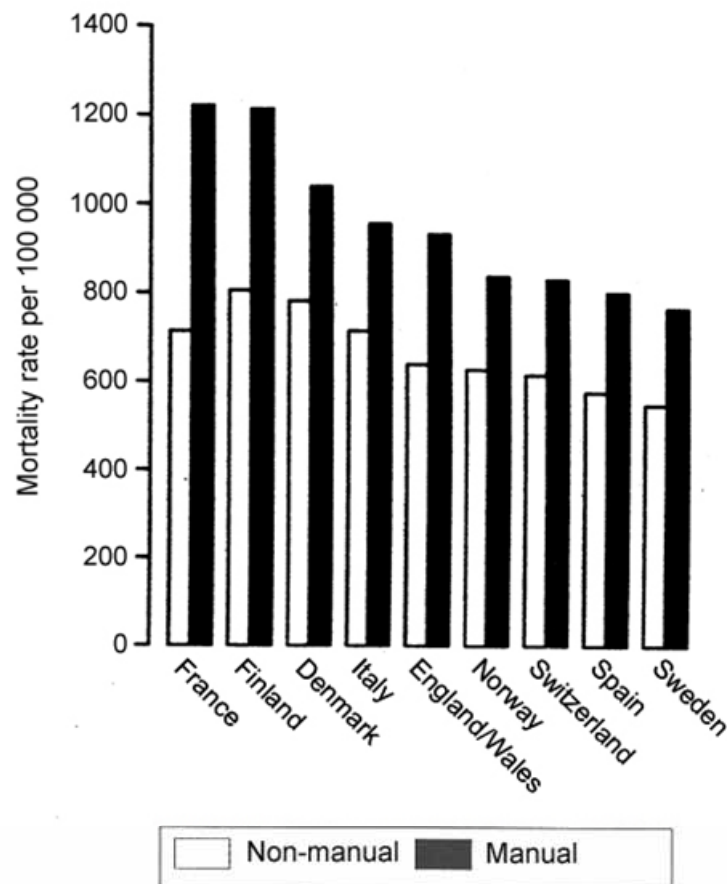
THE WORKSHOP

Social determinants of communicable disease

The structural determinants of health (the social, political, cultural, and economic context) give rise to the distribution of income, education, race/ethnicity, sexual orientation, etc. as defined by specific social, gender, or race/ethnicity norms and set the process of social stratification in motion. The intermediate determinants of health, living and working conditions, food availability, social success and psychological outlook, behavioural factors (e.g. smoking and drinking), etc. determine the differences in exposure and vulnerability to communicable disease.

Social determinants of health: a very brief introduction

Figure 1: All causes of mortality for non-manual and manual workers in nine European countries, ranked by the absolute level of mortality of manual workers (age group 45–59 years)¹⁹





The social determinants of health can be defined as the ways in which people live, work and spend their free time. Inequalities in social circumstances are reflected in unequal chances at success in life²⁰. Mortality is influenced by education: the highest mortality rates are found in the groups with the lowest education¹⁹. This difference is observed in all countries, though the differences between social groups may be smaller in some countries (Figure 1). Societal factors are important as well. The way societies are organised influences the social gradient. Each of three social determinants (income, occupation and education) contributes independently of the other two to most causes of death²¹. So, simple socio-economic indicators are often strongly linked to health outcomes, including infectious disease. The social differences start to influence a person's health very early in life. Childhood poverty may have lasting effects on health. Circulatory diseases, for example, are influenced by the conditions in which a person spends their youth. Early infections by certain pathogens can be the cause of several chronic diseases present in adults, including stomach cancer.

Social inequalities in infectious diseases in Europe

It has already been established that there is higher morbidity and mortality from infectious disease among migrants and socially disadvantaged groups. The dual role of social and environmental factors and the quality of the healthcare system in infectious disease mortality has been recognised²². Yet, there is no clear picture of the magnitude of inequalities of infectious disease mortality in Europe. Data on infectious disease mortality and education from 16 European countries or regionsⁱⁱ were analysed in the EUROTHINE project, using age-standardised mortality rates (ASMR) and the relative index of inequality (RII). A higher RII represents a larger difference between social groups. (The RII uses education to distinguish between its four component groups). ASMRs were higher in the lower-educated groups for all infectious diseases. For tuberculosis, the difference between groups was the largest, as apparent from the RII (Figure 2). All European countries had inequalities in infectious disease mortality, and the most pronounced inequalities were seen in middle-aged men. The magnitude of inequalities for all infectious diseases combined was similar in all western European countries, but was significantly larger in the countries of the former Soviet Union. There was a sharp increase in infectious disease mortality among lower-educated people in Estonia and Lithuania between 1990 and 2000, while trends remained stable in Hungary and Poland (Figure 3).

Figure 2: Age-standardised mortality rates (ASMR) and the relative index of inequality (RII) for infectious diseases in 16 European countries/regionsⁱⁱ

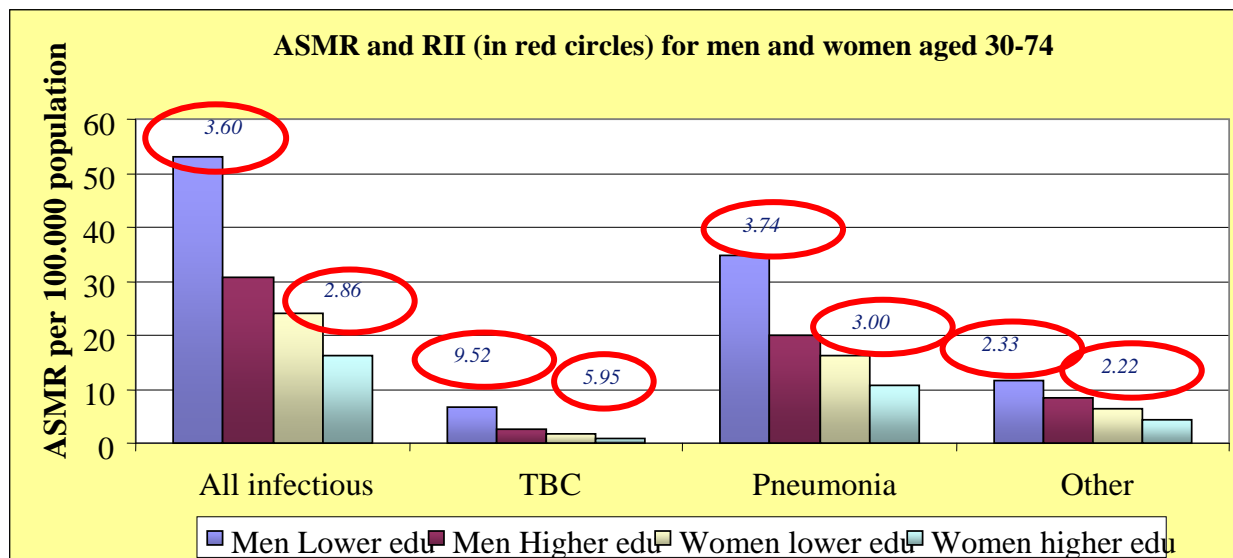
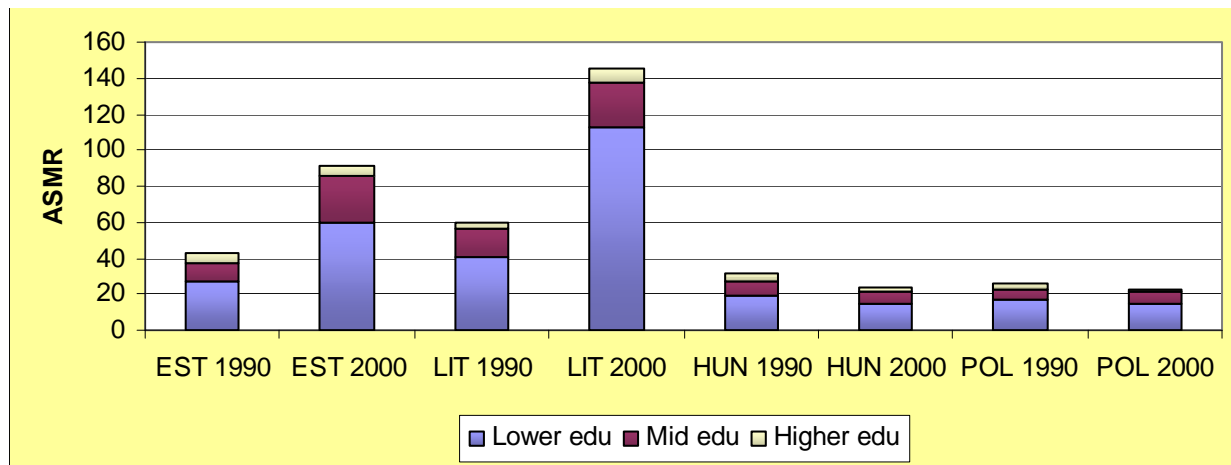


Figure 3: Trends in infectious disease mortality in Estonia, Lithuania, Hungary and Poland



Socio-economic status and hospital admissions due to infectious diseases

A socio-economic gradient in hospital admissions for infectious disease was observed over the period 1990–1995 in the West Midlands in England, which has a population of 5.1 million people. Hospital admissions were registered by postcode and age, and the postcode could be used to assess the deprivation of a district, using the Townsend score. The Townsend score is composed of house ownership, car ownership, overcrowding and unemployment.

ⁱⁱ Belgium, Czech Republic, Denmark, Estonia, Finland, Hungary, Italy (Turin), Lithuania, Norway, Poland, Slovenia, Spain (Barcelona, Basque Country and Madrid), Sweden and Switzerland.



Hospital admissions were higher amongst the lower socio-economic groups for all infections studied (respiratory, gastrointestinal, male and female urogenital) (Table 2 and Table 3). Similarly, the highest rates of mortality from respiratory infections were found in the lowest socio-economic groups. The analysis might be affected by the ecological fallacy: i.e. what was observed at population level is not what was happening at individual level. However, the population units used were very small, less than 200 households, and the analysis concerned a *communicable* disease, so the risk of becoming infected was heavily influenced by whether the people the study subjects associated with had an infection or not.

Healthcare characteristics might also have influenced the observed gradient. For instance, in the UK, healthcare is free and physicians might therefore be more likely to admit socio-economically disadvantaged patients to hospitals to ensure they receive adequate care. However, that the association was observed in all infections and in all age groups, and is biologically plausible as well, points to a causal relationship.

In conclusion, hospital admissions due to the most common infections are associated with being a member of a lower socio-economic class. The relative risks are comparable with those for non-communicable diseases, but lower than for specific infections in particular risk groups (e.g. HIV in men who have sex with men, TB in ethnic minorities).

Table 2; The relative risk of a hospital admission for an acute respiratory or gastrointestinal infection across socio-economic groups in the West Midlands

Type of infection	Age group	Relative risk Townsend score V (most deprived) vs. I (most affluent)	95% confidence interval	Reference
<i>Acute respiratory infection</i>				
	0–4	1.34	1.29–1.40	(23)
	5–14	1.12	1.04–1.20	
	25–44	1.24	1.14–1.39	
	45–74	1.78	1.61–1.97	
	75 +	1.43	1.22–1.67	
<i>Gastrointestinal infection</i>				
	0–4	2.00	1.87–2.14	(24)
	5–14	1.72	1.52–1.98	
	25–44	1.88	1.62–2.19	
	45–74	1.78	1.55–2.04	
	75 +	1.45	1.22–1.73	

Table 3: The relative risk of a hospital admission for a genitourinary tract infection across socio-economic groups in the West Midlands

Type of infection	Relative risk Townsend score V (most deprived) vs. I (most affluent)	p-value	Reference
<i>Female genitourinary tract infection</i>			
Urinary tract	2.1	<0.00001	(25)
Ovary, tube etc.	2.3	<0.00001	
Cervix, vagina, vulva	1.0	—	
Kidney	4.9	<0.00001	
Bladder	1.1	0.02	
<i>Male genitourinary tract infection</i>			
Kidney	1.9	<0.00001	(26)
Urinary tract	1.6	<0.00001	
Testes/epididymis	1.6	<0.00001	
Penis	1.2	0.003	
Prostate	0.6	0.06	
Bladder	1.0	—	

Disease-specific issues in Europe (1): tuberculosis, influenza, respiratory infections and vaccine-preventable disease

Drivers and determinants of the tuberculosis epidemic

The 'dTB project' (drivers and determinants of TB) is an initiative of the World Health Organization's TB programme. The impetus for this project was the lower than expected impact of the Stop TB Strategy in several settings. Further, in some countries TB incidence decreased before the introduction of DOTS (directly observed treatment, short course); and better socio-economic conditions seem to favour the decline of TB regardless of health interventions. (For example, chemotherapy contributed to less than a 5% reduction of TB deaths in England and Wales over the period 1840–1970.) This highlighted the need to better understand what promotes the spread of TB in a community. What are the hidden co-epidemics that drive TB epidemiology in some settings? What are the causes of the causes? What impact do direct determinants like HIV, smoking, malnutrition and the upstream determinants like poverty, education, urbanisation and ethnicity have on the TB epidemic in different settings? The dTB project set out to provide a solid evidence base for the drivers and determinants of TB with a quantified assessment of each of them by a large region. Another expected result will be a series of interventions in the health sector that can be implemented to reduce TB, and a clear advocacy strategy for all interventions beyond the healthcare sector, using TB as an example and a model for health in general.

A specific objective of the dTB project was to estimate the population-attributable fractionⁱⁱⁱ (PAF) for selected downstream risk factors for TB. For the factors studied there was a reasonable body of evidence for a causal link, they were reasonably common (prevalence of

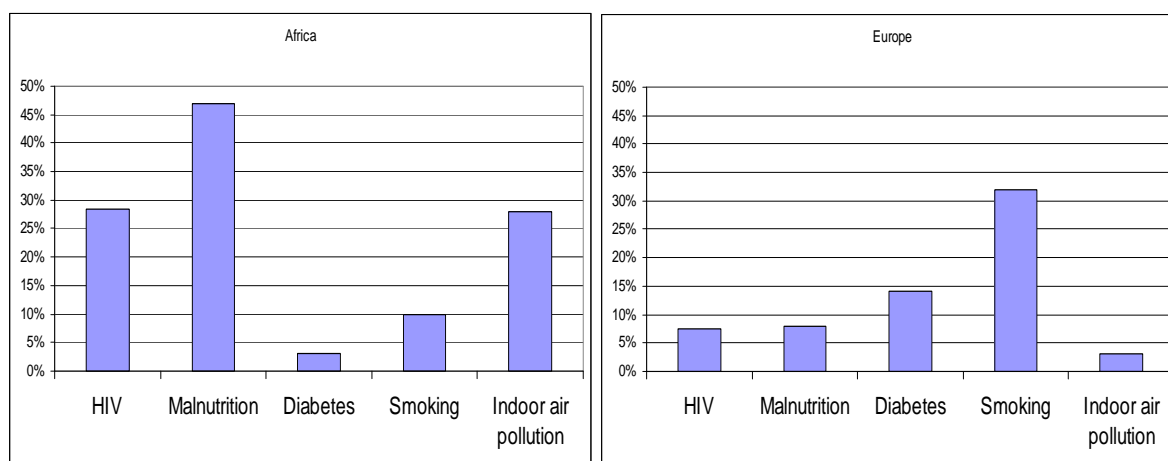
ⁱⁱⁱ Population-attributable fraction = $P \times (RR - 1) / P \times (RR - 1) + 1$.

exposure $\geq 1\%$) and can be altered. The project focused on the 22 countries in the world with the highest TB burden that together account for 80% of global TB cases. Preliminary findings indicated that malnutrition, indoor air pollution and smoking were the main drivers of TB in these countries (Table 4). In Africa, HIV was the second largest impact factor with a PAF of almost 30%, while in Europe (including Russia) smoking had the largest PAF at just over 30% (Figure 4). The next steps in the dTB project will be to refine and widen the scope of the risk factor analysis to areas like crowding, alcohol consumption and others. The results will be used to make a forecast of the impact on the TB epidemic. Then, the downstream factors will be linked to the upstream factors and interventions within and outside the health sector will be defined, together with Stop TB partners.

Table 4: Preliminary findings from WHO dTB project: a quantified assessment of the determinants of TB in the 22 highest burden countries^{iv}

Determinant	Relative risk for active TB disease	Weighted prevalence	Population-attributable fraction
HIV infection	8.3	1.1%	7%
Malnutrition	4.0	17.2%	34%
Diabetes	3.0	3.4%	9%
Smoking	2.6	18.2%	23%
Indoor air pollution	1.5	71.1%	26%

Figure 4: The impact (measured as population-attributable fraction) of selected determinants on the prevalence of TB in the 22 highest burden countries, per region^{iv}



^{iv} Eighty percent of the world's TB cases are concentrated in 22 high-burden countries: Afghanistan, Bangladesh, Brazil, Cambodia, China, Democratic Republic of Congo, Ethiopia, India, Indonesia, Kenya, Mozambique, Myanmar, Nigeria, Pakistan, Philippines, Russian Federation, South Africa, Thailand, Uganda, Tanzania, Vietnam and Zimbabwe²⁷.



Social determinants of resistant tuberculosis in Europe

MDR (multidrug-resistant) and XDR (extensively drug-resistant) strains of TB are prevalent in several countries in the world, especially in the former Soviet Union. Even though routine TB surveillance is well organised, information on social determinants is not collected by the surveillance systems, making special studies necessary. Data from a study conducted in five countries on the risk factors for resistant TB showed that the risk of developing MDR TB was predominantly associated with alcohol abuse, and not with age, gender, unemployment or migrant status. Male gender, being over 43 years old, homelessness, unemployment, alcohol abuse and stays in prison were predictors of poor outcomes (treatment failure and death)³³. The concern is that XDR TB can be caused by mismanagement, as was the case in Italy where two Italian women developed XDR TB, without having any apparent risk factors³¹. This shows that investment in training on TB control remains necessary in both Western and Eastern Europe.

Social determinants and tuberculosis control

Historically TB has experienced a 'social decline'; that is it progressed from an illness that affected all social classes to become primarily a disease of the poor. There is a need for TB control in specific groups which include the urban poor and unemployed and those who may lack access to health services because they lack resources and knowledge to take advantage of it. Other groups at high risk of contracting TB are the homeless, who have a high prevalence of chronic respiratory diseases and alcohol and drug dependence; ethnic minorities, migrants and refugees whose needs often receive too little attention, who cannot always be reached through the usual health and welfare channels, and who often face stigma and hostility. Women might also be identified as a group that warrants special attention as their family responsibilities might affect their health.

Three examples of intervention techniques that have been used to decrease the burden of TB and/or HIV in specific populations were presented at the workshop. These were: the use of harm reduction programmes for TB control in Russia; a TB screening programme amongst a Roma population in Serbia; and the use of peer health educators to facilitate TB health promotion activities in Romania (Box 1)³². Several important lessons for TB control improvement have emerged from these interventions (Box 2)³².

Box 1: Three examples of TB and HIV control interventions aimed at specific populations³²

Harm reduction programmes in Russia

The first harm reduction (HR) programmes started in 1998. Currently, there are about 60 projects with over 700 HR practitioners. The programmes have a standardised approach to implementation, with an initial phase that includes training, preparatory research, arrangements with authorities, building trust and contact with the target group and acquiring equipment for the needle exchange sites used in the programme. There is also a universal organisational structure to each project in terms of staffing, documentation, its major components (stationary sites and outreach activities) and its package of services (needle exchange, informational activities, distribution of condoms, HIV/sexually transmitted



infections (STI) testing, medical referrals). The target groups may differ and can include sex workers, prisoners and homeless children.

HR programmes face several challenges. First, the HIV/AIDS epidemic is changing in HR target groups with an increase in the proportion of heterosexual and vertical transmission, and an increasing number of people in need of treatment for AIDS-related problems. There is also a change in the spectrum of drugs commonly used in Russia, with a decrease in the use of injected drugs. Despite some liberalisation of drug legislation, the majority of official governmental structures do not accept harm reduction and substitution treatment remains illegal. In most regions, HR could not progress beyond the framework of pilot projects.

TB screening programme amongst a Roma population in Serbia

Almost 7 000 people out of over 8 000 refugees and internally displaced people living in camps in Serbia were covered by TB education and screening. In addition, 10 000 Roma living in 123 slums (out of an estimated population of 31 500) participated in education sessions. The challenges for this project were that it was difficult to estimate the number of people, because of migration and seasonal work. There was also a long period between the population estimation and the implementation of the activities. Further, the Roma were suspicious towards some of the programme's specific activities and part of the population is illiterate. However, the Roma showed interest in their health and the cooperation with Roma NGOs was strengthened as a result of this initiative. Additionally, it was an opportunity to involve the Roma as Red Cross volunteers.

The use of peer health educators (PHE) to facilitate TB health promotion activities in Romania

Before the start of the project the baseline knowledge, attitudes and practices regarding TB among Roma living in Bucharest, Ilfov and Neamt was assessed. Just over half of those surveyed had heard of TB and 15–30% knew the symptoms of the disease. Half did not know that TB was contagious and 43% did not know that TB can be treated. Many people associated TB with stigma and/or shame. Over half would avoid TB-positive acquaintances. Peer health educators entered these communities after having been trained to facilitate TB health promotion activities. Forty PHE were trained and 28 were retained to lead TB campaigns. Each PHE organised sessions with up to 20 community members. Over 10 000 community members participated in the programme and 607 of them went for TB testing during which 49 new cases were found. PHE identified and encouraged 450 contacts to be evaluated.

This project showed that the PHE can form a key liaison between the Roma communities and local health authorities. They gave assistance in securing identification cards, registration for social assistance and health insurance support; and developed strategies for highlighting other health priorities and for negotiating with local authorities. The PHE need to undergo regular evaluations, receive feedback and assist in liaising with local health and TB authorities. The project showed that TB may serve as an entry point, but that links to other community priorities are necessary to facilitate social mobilisation. In addition, strong partnerships are needed both at the national and community levels. The issue of stigma needs to be addressed over time and programmes aimed at alleviating this should be built



into ongoing education and community outreach activities. The main challenges in this project were:

- Inadequate nutrition, hygiene and housing;
- Lack of documents and health insurance;
- Lack of knowledge about the disease and its symptoms;
- High levels of stigma and poverty;
- Lack of trust in health institutions and healthcare staff;
- Being unaware of their rights to healthcare;
- Inadequate communication between patients and providers;
- Access to proper healthcare services, cost and time to travel to health services, cost of informal payments in the health system and of treatments/ medicines;
- High dropout rates because of mobility and migration;
- Small projects with very little impact at the national level;
- Little (if any) collaboration/cooperation between different donors/organisations involved in different projects;
- Sustainability.

Box 2: What can we do to strengthen TB interventions?³²

- Strengthen countries' national systems with involvement of different healthcare providers in TB control;
- Involve the communities;
- Link the community-level interventions with national policies;
- Involve the representatives of affected communities in TB programme design, implementation, monitoring and evaluation;
- Ensure patient support programmes are established to address the delay in diagnosis and to ensure TB treatment is completed;
- Advocacy and health communication;
- Encourage research to provide the needed evidence.

Disease-specific issues in Europe (2): HIV/AIDS

Social determinants and HIV

A review of the recent literature on the social determinants of HIV revealed the many social determinants and contextual factors that are associated with HIV (Table 5). The problem is that there are many possible concurrent determinants, and that the processes by which the determinants influence behaviour are complex. It is difficult to identify the respective importance of each determinant so as to prioritise interventions. Political and policy-related determinants are an important part of the context. In Western Europe, the situation might be more homogenous. There is no simple way to act on these determinants. Given this complexity, an approach bridging different sectors at all levels is required.

**Table 5: Overview of underlying determinants of the HIV epidemic³³**

Socio-economic factors	Economic (under)development: (low) gross national product, (high levels of) national debt and IMF pressure; poverty; inequity/inequality; socio-economic disruption; migration (seasonal work, specific jobs, etc.); (over)urbanisation; (low) income; (un)employment; housing; commercial sex; rate of substance abuse.
Socio-cultural factors	Culture: marriage, birth, post-partum, breast feeding, gender relations, gender roles, religion; social norms; sexual norms; social and sexual networks; (low) literacy rate, (low) educational attainment; (low) access to media; young age at initiating sexual activities with no access to sexual education.
Political factors	Social /political upheaval and instability, wars, famine; migration, population mixing (refugee camps, borders, prostitution); army; allocation of resources; political organisation and political will (regarding the development of HIV/AIDS prevention/treatment policies).
Human rights	Discrimination/stigmatisation against/of specific sub-populations (men who have sex with men (MSM), intravenous drug users (IDU), non-nationals); racism and segregation.
Socio-demographic factors	Population composition, fertility and mortality rates; patterns and levels of migration and urbanisation.
Epidemiological factors	Stage of the epidemic; STI prevalence; HIV prevalence.
Infrastructure	Healthcare and education; (poor) access (prevention and treatment); unequal access; existing policies and programmes in relation to HIV/AIDS and STIs.

Inequalities in access to antiretroviral therapy in Europe

The HIV epidemic is partly driven by access to antiretrovirals. In the United Kingdom around half of the newly-diagnosed HIV infections in heterosexuals in 2005 were in people coming from a country with a generalised HIV epidemic (i.e. a HIV prevalence consistently over 1% in pregnant women), and around a third of HIV cases were undiagnosed³⁴. In the past few years, the attitude towards HIV testing has changed dramatically, from a situation in which testing was more or less discouraged, to one in which testing is encouraged. A late diagnosis of HIV is closely related to the route of transmission, which is in its turn closely related to social determinants. Of those infected, about a quarter of men who have sex with men were diagnosed late, as opposed to half of heterosexual men. A late diagnosis meant that men who have sex with men were already sick by the time of diagnosis³⁴. The short-term mortality rate was much higher in people who were diagnosed late, approaching 6% within one year³⁴. Gay men benefited from the public health campaigns, with more of them getting tested for the virus as a result. The proportion of cases that were detected early rose dramatically. Black and ethnic minorities, on the other hand, did not benefit. The number being diagnosed did increase, but the number being diagnosed late also rose and the proportion of diagnoses made early remained unchanged³⁴.

The research shows that if there is a change in public health policy, those who are able to access the public health sector gain the most from that policy change. A survey of Africans living in the United Kingdom who had recently been diagnosed with HIV showed that 73% of them had visited their general practitioner in the past year, but HIV testing was only mentioned to 16% of the participants. For half of the study participants, their general



practitioner's advice was the main reason for agreeing to an HIV test³⁵. This shows that the introduction of antiretroviral therapy has to be accompanied by increased activities by preventative services to make sure that all those at risk get tested.

Considerations regarding social determinants of HIV and sexually transmitted infections (STI)

The reality of the epidemic of HIV and STI is very different in different regions in Europe, and changes constantly. For example, HIV started off as a disease affecting affluent social groups. Education was a really effective preventative measure in that group. But HIV infections are now moving out of that group. Therefore, it is difficult to present an overall picture of the important social determinants. It is clear however, that life and social skills are important. Discrepancies between groups can be diminished by qualified life skill education. Good programmes exist, but they have to reach a large number of people to be effective.

Gender is increasingly becoming an important determinant. Women are the most vulnerable to HIV and STIs. Another important set of determinants are social values and social norms, both of which are difficult to influence.

The political will to act is also an important determinant as the policies of the South African government towards HIV clearly show.

Many determinants are intertwined. For example, income and education are the underlying determinants of the association between ethnicity and HIV. It is still unclear how other determinants are related.

There is also a need to study determinants for specific subgroups; ethnicity and HIV for example. The backgrounds of ethnic groups differ from country to country and region to region within countries. There are large differences between populations such as migrants and refugees and such groups cannot be lumped together. For example, in the UK, sex workers from Eastern Europe have a lower risk of becoming infected with STIs than sex workers from other countries. However, because of the risk of stigmatisation, care should be taken on how to present the results of such studies.

With increasingly mobile populations, it is important to ensure that people know how to access healthcare and what their rights to healthcare are.

Other future trends that will have an impact on the HIV and STI epidemics are increasing divorce rates, increases in the numbers of sex workers, and a trend towards people moving as individuals, not as families.

Lastly it is important to underscore the difference between all STIs. Chlamydia, for example, is widespread, so has a more general background risk as compared to HIV. Research into the determinants of specific STIs is needed, as the 'other' STIs have recently started to become neglected diseases.



Disease-specific issues in Europe³: food-borne and zoonotic diseases

Campylobacter infections in England and Wales: impact of ethnicity

In England and Wales sentinel surveillance for campylobacteriosis is in place. Twenty-two health agencies participate, covering 12.5 million people, and 15% of cases of campylobacteriosis are laboratory confirmed. As part of a research project questionnaires were given to the patients detected by the sentinel surveillance, with questions that included social determinants. (The national surveillance system does not collect data on social determinants.) Results across ethnic groups were not unequivocal: there were non-English groups with a higher risk of a campylobacter infection, when compared to the English population, and there were ethnic groups with a lower risk. Pakistanis were almost twice as likely to contract a campylobacter infection as English people were. The epidemiological pattern of campylobacter disease in Pakistanis living in the UK was very different from that in native English people. In Pakistanis, children under five years of age were mainly affected versus adults; the main season was in winter time, as opposed to summer, for the English people. The mean number of exposures was significantly less in Pakistani people than in English people, except for halal meat, lamb and organic meat³⁶. Previous research from the end of the 1990s showed that meat from halal butchers was contaminated in 28% of cases as opposed to 0.6% of cases from conventional butchers^{37,38}. Information from food surveys showed that the contamination of food was associated with price, but a higher price did not automatically mean a lower contamination. For example, cheaper sausages were more likely to be contaminated, and so was more expensive cheese because prestige producers are more likely to use unpasteurised milk. Similarly, outbreaks of norovirus are frequently linked to oysters and luxury produce in the UK³⁹. Much more work could be done to examine the impact of social deprivation, ethnicity, nutritional status, education, age, etc. on access to healthy (nutritional and microbially safe) foods and food hygiene practice (storage, preparation, etc.). Surveillance data could raise hypotheses, but these need to be tested by means of well-designed epidemiological studies.

The study of infectious intestinal disease in England

A nested case-control study on all-cause diarrhoea was conducted in England over the period 1993–1996⁴⁰. Over 7 000 diarrhoea cases that had arisen in communities and had been seen or treated by general practitioners were studied. The diarrhoea was mainly mild and of viral nature. The most marked difference for diarrhoea in the community was the higher diarrhoea rate in rural areas, compared to urban areas, though the highest overall rate was found in London. Social class at an individual level was not associated with diarrhoea, but the socio-economic composite (Jarman score) of the area people lived in was associated with diarrhoea. Those living in the most deprived areas had the highest risk (Table 6). The Jarman score was designed to reflect the workload of GPs by area and is composed of several indicators, including the percentage of households with unskilled workers, the percentage of people who live in a room with more than one other person and the percentage of people that recently migrated into the area, amongst others. The average Jarman score for England is set at 0 and an area with a higher score indicates a higher demand for primary care. When looking at



adults who came to their GP with diarrhoea, the poorest had a higher risk, but there were no differences between the other socio-economic groups. Disabled people also had a high risk, but not the unemployed. In addition, people with asthma, diabetes and on antacids had a higher risk. When the risks across socio-economic groups were adjusted for international travel, the risk of the lower socio-economic groups became more apparent.

For children, the situation was very different. The socio-economic level of the parent did not matter at all. Living in a single-parent household, in rented council housing and travelling abroad were associated with an increased risk of diarrhoea. In infants, the risk was increased for the two lowest socio-economic classes, which was probably attributable to the larger number of contacts outside of the household which is a risk factor especially for viral infections, the most frequent type of infections in this age group. The differences in the number of people coming to a GP with a case of diarrhoea divided by social class were not due to differences in health-seeking behaviour, but were associated with the severity of disease and age of infection⁴⁰.

Table 6: Variation in the rate of infectious intestinal disease presenting to general practitioners, controlled for age and sex⁴⁰

Factor	Rate ratio	P-value	95% confidence interval
<i>Region</i>			
North	1.00		
Southwest/Midlands	0.88	0.35	0.67–1.15
Southeast	0.63	0.016	0.43–0.92
<i>Location</i>			
Urban	1.00		
Rural	1.09	0.52	0.84–1.42
London	1.80	0.009	1.16–2.78
<i>Jarman score</i>			
1st quintile (least deprived)	1.00		
2nd–4th quintile	1.23	0.12	0.95–1.60
5th quintile (most affluent)	1.65	0.03	1.19–2.28

The main determinants of food-borne and zoonotic disease

Table 7 summarises the main social determinants and their association with food-borne and zoonotic disease. The role of education is important in food handling and other prevention measures e.g. travel vaccinations. Ethnicity is important as a determinant of food-borne disease because it determines traditional food patterns. Living and working conditions will greatly influence which hygienic measures are available (clean drinking water, for example), whether you are living in an endemic area or not, and whether there is a lot of contact with animals.

**Table 7: Social determinants^v in the context of food-borne and zoonotic disease**

Social determinant	Food-borne disease	Zoonotic disease
<i>Structural determinants</i>		
Income	?	?
Education	++	++
Ethnicity	++	?
Gender	+/-	?
Sexuality	-	-
<i>Intermediate determinants</i>		
Living conditions	++	++
Working conditions	++	++
Availability of food	+	-
Behaviour/lifestyle	++	+
Barriers to adopt healthy lifestyle	++	++
Healthcare system (access)	++	++
<i>Social political context</i>		
Culture, religion, social security, labour market, educational system, law and regulation, etc.	+++	++
Differences between regions in Europe?	+++	+++

Interventions aimed at overcoming social inequalities

A framework for intervention strategies

The key to successful interventions is that fiscal and regulatory incentives must simultaneously and sustainably support behavioural change. In practical terms, this means that the healthiest option should also be the cheapest and easiest. There are four relevant entry points or levels of action (Figure 5):

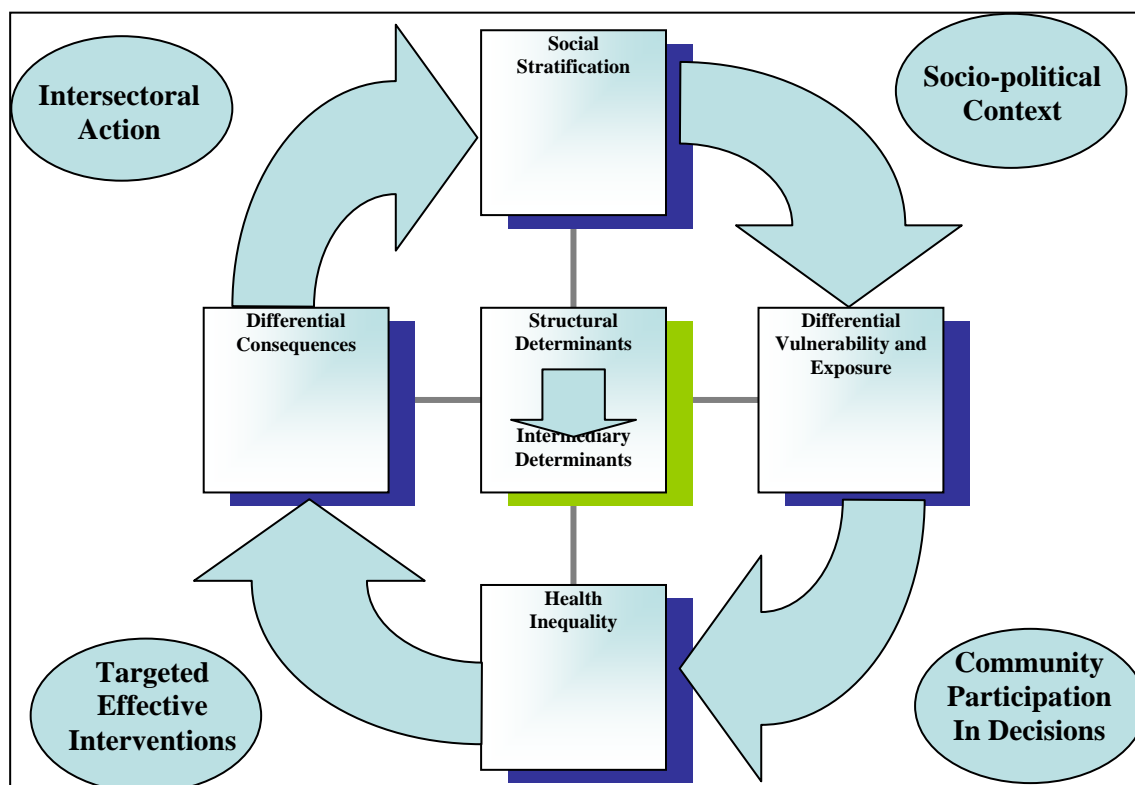
- Decreasing social stratification.
- Reducing exposure to harmful factors.
- Lessening the vulnerability of disadvantaged people.
- Increasing access to healthcare to prevent adverse consequences of disease⁴¹.

An intervention must:

- be inclusive of other sectors, such as sanitation, housing, and civil-engineering;
- be tested and validated for its effectiveness;
- engage communities in the decision-making process; and
- be responsive to the local or national socio-political context⁴².

^v Social determinants derived from the conceptual framework of the WHO Commission on Social Determinants of Health of the WHO.

Figure 5: A framework for intervention strategies to overcome social inequalities⁴¹



Four examples of intersectoral interventions that have been used successfully are: (1) the sanitary epidemiological services of Nukus in Uzbekistan; (2) the 1995 Chicago heatwave that caused over 700 deaths; (3) the City Repair Project, a community-based intervention to fight urban blight; (4) the Swedish National Public Health Objectives (Box 3)⁴².

The sanitary epidemiological services of Nukus in Uzbekistan

In Nukus, Uzbekistan, water mismanagement had resulted in a reduction of water quality and availability, with an increase in diarrhoea rates as a direct health consequence. A randomised community trial was undertaken to evaluate the benefits of a chlorination project. Three groups within the population were actively monitored for diarrhoea: those with piped water; those without it; and those without piped water but with home chlorination. The individuals with home chlorination had the lowest rates of diarrhoea, despite being at a lower socio-economic level and living in conditions with poorer sanitation than the individuals with piped water. Further observations indicated that the water system was the source of disease, indicating that the contamination of the water system with diarrhoeal pathogens had occurred. The study's findings were translated into policy recommendations that were provided to the government and non-governmental agencies. This community trial shows how epidemiological methods can be used to identify structural faults in the underlying infrastructure and to help improve population-wide health. Rather than modifying personal health-risk behaviour upstream, public health solutions were sought and implemented⁴².



The 1995 Chicago heatwave

The Chicago heatwave of 1995 was one of historic proportions. It would end up being the instigator of many more heat-related deaths than the city had ever observed. An in-depth investigation showed that the elderly and isolated were at an increased risk of dying as a result of the heatwave, particularly if they suffered from underlying medical conditions. Living in poverty or in an isolated area also put a person at risk of dying from a climate-related malady during the heatwave. Thus the importance of social networks was underscored, above and beyond individual behaviour. These findings resulted in a comprehensive heat emergency response plan, with a number of specific steps including weather monitoring, initiating emergency responses, media advocacy, outreach and evaluation. The plan was subsequently tested during a heatwave in 1999 in Milwaukee where 17% fewer deaths were observed compared to the number expected at that temperature, and medical service runs fell by 51%.

The City Repair Project

The City Repair Project committed itself to engaging residents in a process of urban revitalisation to promote cohesion and create a sense of belonging and community. In informal meetings, residents developed a common vision for their neighbourhood, with specific plans to build interactive art features such as large outdoor murals, benches and trellises for hanging gardens. During the implementation of the projects the shared building experience improved and expanded both established and newly-formed social ties. The interactive art features have improved the urban environment and can work catalytically for interactions and conversations. In an observational study, 32% of passers-by interacted with a stranger, read the signs about the project or took a photograph, compared with 7% of passers-by at a similar but unimproved section ($p < 0.01$). A survey amongst residents revealed an increased sense of community ($p < 0.01$), an overall expansion of social capital ($p = 0.04$) and improvements in mental health ($p = 0.03$)⁴².

The Swedish national public health objectives

Out of the 11 Swedish national public health objectives, six concern distal determinants of health, while the remaining concern more proximal health determinants (Box 3)⁴³. The first six objectives are structural interventions that aim to create the optimal base for health, including social, cultural and economic factors⁴².

Box 3: The Swedish national public health objectives⁴³

1. Participation and influence in society.
2. Economic and social security.
3. Secure and favourable conditions during childhood and adolescence.
4. Healthier working life.
5. Healthy and safe environments and products.
6. Health and medical care that actively promotes good health.
7. Effective protection against communicable diseases.
8. Safe sex and good reproductive health.
9. Increased physical activity.



10. Good eating habits and sanitary food.
11. Reduced use of tobacco and alcohol, a society free from illegal drugs and a reduction in the harmful effects of excessive gambling.

Social determinants are the fundamental causes of disease worldwide. If systemic health inequities are to be reduced and disease is to be eradicated, it is necessary to intervene in its macro-level causes. Acting upon social determinants entails the age-old predicament of public health: how to take decisive action despite the lack of definite data. A variety of tactics should reflect the many different possible approaches to tackling the social determinants within each country's own political, historic, cultural, and social context.

Interventions aimed at overcoming social inequalities: examples from Bulgaria and discussion

Large-scale interventions address a high number of determinants of vulnerability in the Roma community, including risk-taking behaviours with respect to communicable diseases. Twenty years ago, a representative KAP-study (knowledge, attitudes and practices) on factors influencing the effectiveness of an AIDS prevention school programme was carried out among students in Sofia. The effectiveness was measured by a KAP before and after intervention and a follow-up six months later. It was established that trained school psychologists were much more effective disseminators of information about AIDS education than trained school teachers. It was found that the only significant factor for the effectiveness of AIDS education was the social status of the students, measured by the parents' income, their level of education and the student's grades. It was quite obvious that the social skills of adolescents relate to a large extent to their social status. For this reason, the subsequent AIDS programmes among young people were based on the development of social skills, like decision-making, verbal and non-verbal communication, listening and assertiveness⁴⁴.

In the Roma community there are many overlapping factors that make the group vulnerable to AIDS. Those can include unemployment, substandard living conditions, poor education and single family households. On the basis of everyday practice and critical analysis, a large-scale intervention strategy was developed. This good practice was disseminated and strengthened in 10 cities with the biggest Roma populations all over the country under the Programme on HIV/AIDS Prevention and Control in Bulgaria. The basic principles for an effective intervention in the Roma community were: the involvement and empowerment of local communities; reliability, sufficient quality and sustainability of provided services; and a combination of appropriate services with complementary effects. The involvement and empowerment of local communities was achieved through an analysis of the local situation and the investigation of resources, as well as through involving representatives from the Roma community in all stages of planning, implementation and evaluation. The programme also envisioned their participation in different levels of management according to the Roma's capacity. An appropriate infrastructure (Health and Social Community Centre) with relevant equipment was built in the Roma's neighbourhoods, maintained by a local NGO. Teams of health and social community workers were formed through professional selection from the local Roma communities. Professional relations with existing relevant institutions, services, and local authorities were established and maintained. A network of NGOs working within the Roma



community on the implementation of the current health policy was established. Reliability, quality and sustainability of provided services was ensured through (a) on-going service-oriented training in health promotion and social work methods, (b) regular professional supervision by the experts employed in communication, social work, community work, group work, counselling, team-building, work with services and burnout prevention, and (c) a sound system of monitoring and evaluation. The intervention itself consisted of a combination of appropriate services with complementary effects (outreach work, consultations, life-skills education, training of peer educators/popular opinion leaders, referral, community work, specific services). Crucial for a positive change were the hiring of high quality professionals and professional monitoring and evaluation. Also key were large-scale interventions addressing health, social and educational problematic issues, and an investment in early childhood development for successful health, educational and social integration⁴⁴.

The discussion on interventions to overcome inequalities (Box 4) indicated, among other things, the need for a database of successful interventions such as the ones described above.

Box 4: Discussion on interventions to overcome inequalities

- Primary prevention in a vulnerable group is akin to social work. The knowledge and capabilities that are strengthened in the population will help to reduce their risk of being infected.
- Paradoxically, lower level interventions may increase social gaps because the least deprived may profit more from an intervention. Part of the discussion should consider general interventions versus targeted interventions. Vaccination may be the only strategy that does not short change anyone as long as herd immunity is reached. At least, when an infectious disease is spreading fast it is true that social characteristics do not matter much if herd immunity is achieved. However, when the Hib vaccine was introduced it did not reach all social groups and thus it increased social inequalities.
- It took Sweden 25 years to come to their public health strategy. Small interventions usually take 3–10 years to have some effect in a small community. Why wait for the big structural problems to change? A lot of work can be done at the level of intermediate determinants and vulnerability.
- Many interventions are less effective in marginalised groups. This might be circumvented by aiming at more upstream interventions.
- In many countries the relative difference between socio-economic groups has increased. Even in an egalitarian country like Sweden, this relative difference persists. It might not be possible to eliminate it.
- The difference between rich and poor will always be there. That is part of the variation that has to be accepted. But it is the relative poverty that counts. An unfair imposition on the marginalised needs to be avoided and interventions that prevent a widening of the gap need to be identified and implemented.
- There is no way of getting around the problem without addressing the macro environment. However, there are some useful interventions targeting the vulnerable. This is somewhat of a double message: find the practical solutions on the downstream



and intermediate determinants. How useful is it to address social determinants in infectious disease as a separate topic? All these upstream determinants belong to the greater context of public health.

- The public health sector is not the only stakeholder. It should make a roadmap, the public health agenda, indicating which changes are necessary. Changing social norms and values require a more comprehensive agenda.
- Health surveys can be put to more use, by trying to measure, before each political decision, what the health impact would be.
- There is a need to know the burden of infectious disease and likely trends in Europe. The trend has been downward in the past 100 years. Antimicrobial resistance is increasing and will likely become the biggest infectious disease problem in the EU. It is not that visible right now because cases of it are largely confined to intensive care units and do not affect the wider community. The priorities for action on the downstream and midstream determinants need to be decided upon. What are the priorities in the area of communicable disease, and also in relation to non-communicable disease? What are the cross-cutting determinants and their relative importance?
- To improve people's education, their access to healthcare, etc. the goal is not just to control infectious disease but to improve public health in general. Simultaneously, there are successful smaller, local initiatives. The problem is how to coordinate combined efforts. To make synergy possible, a database on interventions that work can be helpful. Good information is out there but not readily available.

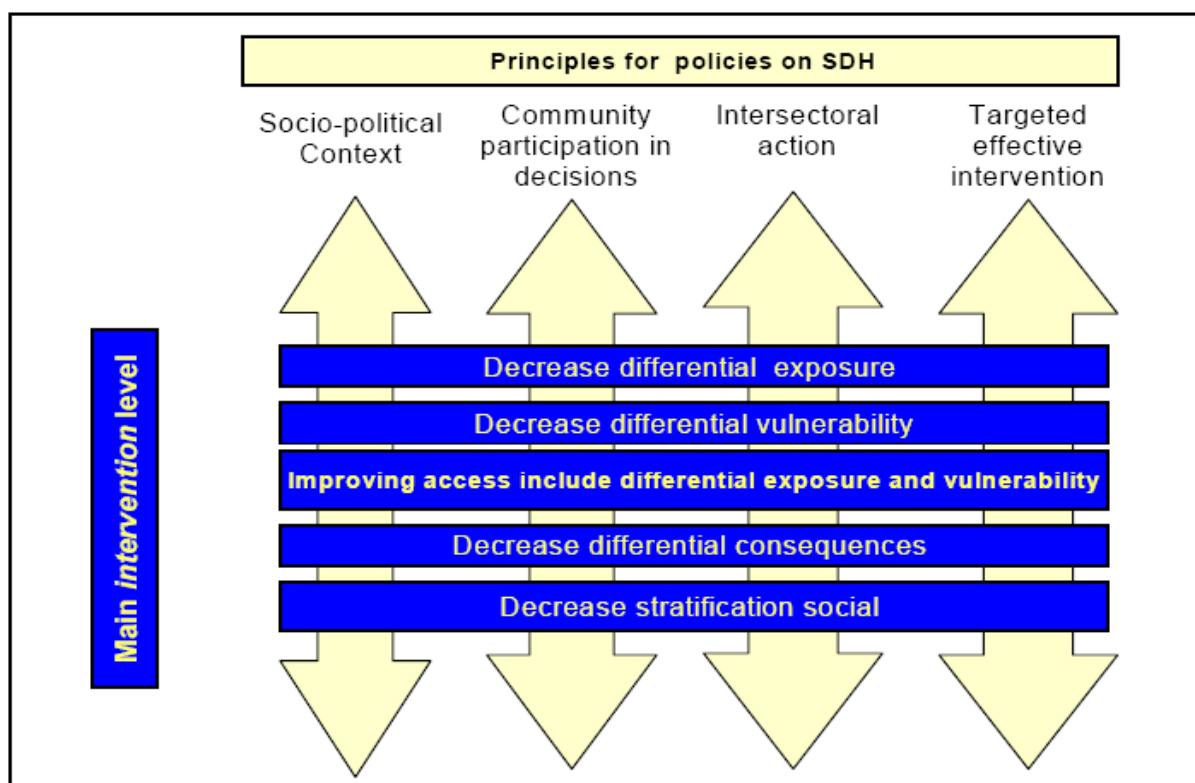
Strategies to address social inequality

The WHO European Office for Investment for Health and Development

Throughout Europe social inequalities persist and they have an impact on the existence and persistence of a social gradient in health. A poorer health outcome in disadvantaged groups leads to an increased vulnerability to communicable diseases, and vice versa. The main policy entry points or intervention levels are described in Figure 6. The WHO European Office for Investment for Health and Development, based in Venice, has two main functions: (1) to monitor, review and systematise the policy implications of emerging research findings on the social and economic determinants of health; and (2) to provide a set of services to increase the European capacity to promote population health and reduce health inequities. In these capacities, the office reviews and analyses action taken and policy developments in individual countries. For example, Lithuania, Finland, Sweden, Norway and the United Kingdom have formal policies or processes addressing health inequities⁴⁵. The Venice office monitors these countries' policies and evaluates the Finnish programme. As part of an effort to develop useful tools and guidance for countries on the issue of equity in health, the WHO Venice office has prepared several publications, on, for example, levelling up (bringing the health outcomes of the disadvantaged closer to those of better means). It assists countries with specific technical assistance and training. The main lessons are that countries need to address issues of health and development and that population health remains a challenge. The whole 'system' of health needs to be managed, rather than simply providing separate

interventions. In addition, differences in countries' policy contexts need to be appreciated. There are countries with a policy agenda on the reduction of health inequalities, while other countries have new priorities and reasonable means to address them but not yet structured policies, and finally, there are countries witnessing a fast increase in health inequities but that have little means to respond.

Figure 6: The main intervention levels/policy entry points for policies on social determinants of health⁴⁶



The Dutch experience with a programme addressing inequalities in health

The Dutch programme to tackle inequalities consisted of a first research phase to map the nature and determinants of socio-economic inequalities in health (1989–93) and a second research phase to gain experience with interventions and policies to reduce them (1994–2000). The second phase resulted in recommendations for policy-making. The results were discussed with representatives of the whole range of the political landscape in The Netherlands, with a set of detailed recommendations for policies and interventions at four entry points (see Figure 6 for these entry points).

In this programme, researchers took the lead in setting the agenda by describing the magnitude of the problem, finding explanations and evaluating interventions. This was picked up by policymakers, but due to continuous changes in personnel at the Dutch ministry of health, the interaction between researchers and policymakers weakened over time. A continuous push from researchers was needed. In addition, the position of the ministry of



health seemed relatively weak, compared to other policy areas. National level action failed but local initiatives were evaluated as successful. Intersectoral action was needed, but the non-health sectors considered inequalities in health the responsibility of the ministry of health. The non-health sectors found the subject 'abstract' which made it imperative to rephrase the issue for other policy areas. Common goals across different sectors should be looked for and other sectors are best addressed in their own 'language', e.g. for housing corporations this language might be high quality living conditions and sustainable building. In the end the programme achieved some successes on regional and local levels, but not so much on the national level⁴⁷.

The social-political context does affect health, including infectious disease morbidity and mortality. There are examples from (recent) history for that (Box 5). The Dutch experience raises the following questions: Which data are needed to set the agenda? Are the data needed collected, e.g. do surveillance data include social determinants? How can the issues best be phrased towards policymakers in different sectors? What policy level is best to address: local, regional, national, EU? Considerations regarding these issues of policy development, regulations as a tool to diminish inequalities in health and how to achieve a multisectoral approach are summarised in Boxes 6 to 8.

Box 5: Examples from (recent) history of socio-economic and political development in Europe and the changing burden of infectious disease

- The improvement of social conditions reduces the communicable disease burden, e.g. housing improvements in The Netherlands in the early 20th century.
- Improved health services improve health outcomes, e.g. in postnatal sepsis after the improvement of pregnancy services.
- Removal of preventive services or a smaller amount of attention paid to communicable services leads to a re-emergence of infectious diseases, e.g. diphtheria in Russia, TB in the USA and in Eastern Europe.
- Re-emergence of communicable diseases is also observed in excluded groups in developed countries.
- Inequalities are difficult to eliminate but there are some successes, e.g. HIV control in Switzerland.
- Some communicable diseases have been eliminated for all, such as cholera, smallpox and polio.
- The privatisation of health services (Eastern Europe) did not work for all health issues, e.g. TB prevention needed to be taken care of in the public sector.
- To implement interventions for unpopular minorities you need brave politicians, e.g. for needle exchange programmes in UK.
- Countries' success stories and the sustainability of achievements should be emphasised.



Box 6: Areas of policy development that would address inequality

- Take the evidence from disease-specific successes and expand those to a higher level.
- Document the good examples that have worked with upstream/downstream determinants and get this message out to both EU countries and the global community.
- Ensure that policies cover the strengthening of surveillance systems, health education at all levels, community involvement and continuity of care.
- Coordinate the efforts of different key players and different ministries.
- Is surveillance adequate? Is the correct data being collected?
- Address the development of drug resistance in a coordinated manner: develop proper national drug regulations; ensure access to diagnosis and management;
- Put more emphasis on cost benefits. Financial savings can be an important part of communication with health services or employers.
- Make better use of lobbyists and economists, like the synergy that can be observed between agricultural and environmental groups.
- Communication needs to be strengthened between the public and politicians and between epidemiologists themselves.
- Incorporate communicable disease issues in existing 'hot' topics, e.g. add a food safety element to a campaign on healthy diet to counteract obesity or coronary heart disease.
- There is a need for an in depth analysis of what worked and what went wrong in previous initiatives to learn to formulate better programmes in the future.
- It is important to know what is happening in the private sector, in prisons for example.
- Accurate measurement should produce regular league tables for the health of local communities, e.g. MRSA in hospitals, and these should be used for advocacy.
- Advocate to make the easiest and cheapest choice the healthiest one.
- Communicate general health goals such as those from Sweden (see Box 3) to the public, this might be an important advocacy tool.
- Prioritise actions in big cities, e.g. the Paris Local Authority action on homelessness on the issue of TB.
- Identify proper non-political messages to ensure that the right measures are taken in spite of the frequent changes of decision makers.
- Humanitarian and economic arguments should be put forward to set an agenda to tackle inequalities. The decision-making process is a political process, so take into account which different perspectives are needed by the different parties.
- Include NGOs in multi-agency work for excluded groups.



Box 7: Regulations and law enforcement to protect marginalised groups

- Within a supportive environment, legislation can help to reduce inequalities.
- Sound science is essential to support any law to protect people.
- Develop a common European approach on diagnosis and treatment costs to protect the marginalised.
- Refugees can lead to an increase in communicable diseases. Consider providing free services for them.
- Inform marginalised groups of their rights and responsibilities.
- Assess the specific interventions tackling the problems in different groups like intravenous drug users, commercial sex workers, Roma.
- Remove laws that hinder prevention in marginalised groups, e.g. discrimination against MSM, sex workers, drug users.
- Compulsory sex education at an early age.
- Retain regulations, resisting political pressure, e.g. rendering in the case of BSE.
- Attempt to harmonise the intra-European measure of acceptability of risks and interventions.
- Should there be a framework for compulsory admission or prosecution or screening for TB? The question needs to be asked whether these are proportionate measures or counter-productive.

Box 8: How to achieve a multi-sectoral approach

- The acknowledgement that there are multiple causes should be followed by intersectoral action.
- All sectors should be the target of advocacy efforts.
- Activists are key allies in facilitating intersectoral action.
- Get the non-health experts interested: make economic arguments work for public health interventions.
- Go beyond health when tackling the upstream determinants. The ministry of health might even be an obstacle. Talk to the ministry of finance or to the other ministries when needed.
- Health messages may need to be rephrased to make other sectors jointly responsible for the problem at hand.
- Leave problems more 'open' and consult other sectors on what they see as solutions.
- Try to set common goals and opportunities. Otherwise, other sectors may view it as just a health problem.



Identifying priority actions

Assessment (monitoring the health status of susceptible populations)

In the current communicable disease surveillance systems there is no collection of information on poverty, and very little information on ethnicity or other social determinants. There are however, some countries collecting social determinant variables that can be useful (Portugal, Romania). For disease surveillance it's better to have few variables on determinants so as not to overburden the surveillance system, but one or two variables on social determinants could be added to disease surveillance systems across Europe. A group of experts could discuss which variable(s) to use. ECDC could facilitate and promote the use of this social determinant variable in the national surveillance systems. Education or country of birth might be variables that are relatively comparable across Europe. Another possibility is to routinely collect a risk factor variable, similar to that done for accident prevention, where the ICD coding is two-step: first the A code to describe the type of injury, then the E code to describe what caused the injury.

Confidentiality might be an issue. If people lack confidence in the authorities, the surveillance system might be weakened by the inclusion of certain questions, and people may even be deterred from seeking care. Any data collection from people in a vulnerable position can be difficult. For example, HIV surveillance in Bulgaria makes use of operating teams and community representatives to work among vulnerable groups. Further, some Western European countries are decentralising their surveillance systems, which can create additional problems when wanting to add questions to the surveillance systems.

If more detailed information is required, surveys or special studies are needed. A system to implement quality surveys would have to be developed, by making guidelines as WHO and the EU have done for drug-resistance surveys and cost-effectiveness analyses. Furthermore, existing data should be used, such as data on intravenous drug users and prisoners. Prison data are often available and generous.

Policy actions, policy development and assurance

Public health professionals should not be daunted by the macrosocial determinants and pronounce a change too difficult to make. Because it is so difficult to change the macrosocial determinants, strong arguments from all fields of society, including public health, are needed to make a change. Based on scientific evidence, it can be decided what can be addressed through the public health sector, and what needs to be addressed by the public health sector in cooperation with others. There is clearly a priority to highlight upstream macro needs and to work with sectors outside public health. To help with this advocacy effort, targets have to be thought through and debated. Good examples from history from all European countries can be used. Countries that have been relatively successful with their policies on social inequalities should be consulted, but also countries that used to be successful and have had a negative trend over the past 10–15 years. These lessons and experiences should be shared with other parts of the world as infectious diseases are best tackled through a globalised approach. There is a need to work through the democratic processes to raise the debate and widen the range of choices that are available to all sectors of society. The types of real choices have to be 'sold' to politicians and the public. They must know that tackling social



determinants will reduce the burden of communicable diseases. Policymakers and political figures need to be engaged from an early stage if any policy change is to occur.

Health education is also a priority for policy action in two ways. First, health education should be high on the agenda of any policymaker. Children as young as five should start learning about health. This health education should include social determinant perspectives of health issues so that coming generations can influence the political process. The teaching should include the health effects of social segregation, teach specific skills to protect themselves and allow people to think for themselves and influence their exposure to risk factors. There are good examples from the STI field that show that it is more effective to train young people in life skills than to give them condoms. Second, the training on social determinants in medical schools, nursing, sociology, etc. needs to be strengthened. Future health workers need to be engaged in the debate and advocate for change in the upstream determinants.

To determine the priority interventions for the midstream determinants, a mapping exercise is needed. Such an exercise should involve burden of infectious disease studies, determining the population-attributable parts of the relevant determinants and which are the most vulnerable groups. Such information can be used in advocacy campaigns outside of the public health sector as well. ECDC can facilitate the collection of best practices, interventions that have been successfully implemented and can be used by others. In some regions a lot of good work has been done but this information is not always readily available.

Research priorities: 'new insights'

Social determinants need to be back on the infectious disease research agenda, both for descriptive and analytical research and for the research of interventions. ECDC could influence the research agenda by lobbying.

There is wide diversity in the importance placed on social determinants in different countries due to geographical, social, economical and organisational differences. Further variation exists within the grouping of diseases, e.g. respiratory infections or vaccine-preventable infections. First, the selection of priorities for research on social determinants should follow a proper burden of infectious disease study, which is ongoing at present. Furthermore, it is necessary to agree on definitions for social determinants to enable harmonised surveillance. A few core social determinants might be included in routine surveillance, though this is probably not possible for all diseases, e.g. for influenza surveillance. Special studies will be needed for more in-depth information. Existing opportunities can be used to collect ethnicity data to identify marginalised groups (as happened in the UK, for example). The determinants studied should be linked to a possible intervention because otherwise the exercise will be fruitless. Recommendations to ECDC are to measure the contribution of social determinants by exploiting existing data in Europe, including regional studies. Furthermore, ECDC could identify partners and resources to plan and fund research on social determinants in Europe.

Social determinants should not be limited to just education and income, but a wide range of parameters should be included such as social capital and empowerment. Another important, but often overlooked, parameter is the context in which people live and work. Infectious disease risk factors are not individual risk factors, and pathogens can be different across socio-economic groups. With regard to descriptive research, the maximum use should be



made of existing data in order to explore the social determinants of infectious disease. Infectious disease biological markers should be included within standard health surveys, possibly within European surveys. This could help to monitor the changing social determinants of common infections, like the herpes simplex virus. The analytical research priorities are to go beyond health research and examine methodologies that are used elsewhere, including in the social sciences. What is the variety of datasets that are out there and are they useful? Also needed are better, more dynamic models that describe the relationship between social determinants and communicable disease outcomes. Research should focus on the concrete ways in which social disadvantage affects health, including access to care: what are the determinants of acquisition and what are the determinants of outcome once infected? There is a clear need to move towards intervention studies.

Specific areas in which more research is needed are: research on migrants; lessening of stigma, social and political processes; and possibly the hygiene hypothesis. The research on migrants should focus on their needs rather than see them as threats. For some groups, like illegal immigrants, special techniques like participatory research are needed to communicate with them. Social mobility and how it can affect the uptake of preventive interventions needs to be understood better.

It is important to work with communities to understand the different perspectives on future threats. For example, how does the Chinese community perceive SARS and how does it affect them that it is perceived to come out of China?

As infectious disease control improves, the prevalence of those diseases is likely to stay in marginalised groups. This might lead to stigmatisation. Research into social and political processes is needed to know how to develop supportive environments within countries to examine and tackle social determinants. This research should cover different levels, from grass root level to a consideration of how EU policies are contributing to (new) risks in the field of inequality.

Finally, it must be noted that improved hygiene and infectious disease controls might lead to an inverse social gradient. The more affluent could be more affected by infectious disease in later life, because they had never had an infection as a child.



CONCLUSIONS AND NEXT STEPS

There is a social gap in the burden of communicable disease that is at least as big as that in non-communicable disease. The gap may be even larger for specific groups and specific infections. Though in general marginalised groups are most affected, the social gradient does not affect all infections in the same way: the highest socio-economic groups may be more at risk of certain infections because of certain high-risk behaviour.

There is a clear need to know more about the burden of communicable disease in Europe so as to determine what should be the priorities in assessment, research, interventions and policy change. This mapping exercise has been set in motion, for example with regard to TB.

A recommendation that came out of the workshop was to complement infectious disease surveillance with one or two social determinants. This can provide basic knowledge and more detailed knowledge can then be obtained from surveys. Infectious disease biological markers can be included within standard health surveys, possibly within European surveys.

Social determinants are no longer on the research agenda. They need to be put back on there because there is a knowledge gap on the determinants that drive infections in different regions and populations. An important, but often overlooked, parameter is the context in which people live and work. Infectious disease risk factors are not individual risk factors, and pathogens can be different across socio-economic groups. Maximum use should be made of existing data to explore the social determinants of infectious disease. Specific areas in which more research is needed are migrants, the mitigation of stigma and the social and political processes that influence health inequality.

One specific request from the meeting was a database of good interventions. The purpose of such a database would be to ensure a good flow of information, especially from regions that do not publish much of it but have a wealth of experience.

Health education was considered a priority for policy action in two ways. Health education should be high on an education policymaker's agenda from an early age and onwards. This health education should include a social determinant perspective of health issues so that coming generations can influence the political process. The teaching should include the health effects of social segregation, teach specific skills to protect against health risks and allow people to think for themselves and influence their exposure to risk factors. Second, the training on social determinants in medical schools, nursing, sociology, etc. needs to be strengthened. Future health workers need to be engaged in the debate and advocate for change in the upstream determinants. The field of public health should contribute to the debate on social inequalities and their influence on health.

There is a clear priority to highlight macrosocial determinants and to work with sectors outside of the field of public health (political, societal, engineering, etc). To help with this advocacy effort, targets have to be thought through and debated. Good examples from the history of all European countries can be used. ECDC can play an important role as an advocacy agent of the importance of inequality in communicable disease control.



ANNEX 1: PARTICIPANT LIST

Name	Country
Adak, Goutam	United Kingdom
Arber, Françoise Dubois	Switzerland
Brugal, Teresa M	Spain
De Olalla, Patricia Garcia	Spain
Dray-Spira, Rosemary	France
Dias, Sónia	Portugal
Ditiu, Lucica	WHO Regional Office for Europe
Falzon, Denis	France
Giesecke, Johan	ECDC
Hawker, Jeremy	United Kingdom
Jaramillo, Ernesto	WHO Stop TB Department
Johnson, Anne M	United Kingdom
Kabakchieva, Elena	Bulgaria
Krantz, Ingela	Sweden
Lönnroth, Knut	WHO Stop TB Programme
Mallet, Henri-Pierre	France
Manfredi, Roberto	Italy
Mangtani, Punam	United Kingdom
Migliori, Giovanni Batista	WHO Collaborating Centre for TB and Lung Diseases
Pontali, Emanuele	Italy
Raviglione, Mario C	WHO Stop TB Programme
Rodrigues, Laura	United Kingdom
Semenza, Jan	ECDC
Smit, Yolba (Consultant)	The Netherlands
Solovic, Ivan	Slovakia
Stirbu, Irina	The Netherlands
Stronegger, Willibald	Austria
Vågerö, Denny	Sweden
Ward, Helen	United Kingdom
Wolleswinkel-Van den Bosch, Judith (Consultant)	The Netherlands

ANNEX 2: PROGRAMME OF THE WORKSHOP

26 April 2007	
8.45–9.00	<p><i>Session 1: Welcome</i></p> <p>1. Zsuzsanna Jakab, Director, ECDC, Stockholm 2. Johan Giesecke, Chief Scientist, Scientific Advice Unit, ECDC, Stockholm</p>
9.00–9.45	<p><i>Session 2: Social determinants</i></p> <p>Denny Vågerö: Social determinants of health – a very brief introduction Irina Stirbu: Social inequalities in infectious diseases in Europe Questions/discussion</p>
9.00–9.15	
9.15–9.30	
9.30–9.45	
9.45–13.00:	<p><i>Session 3: Disease-specific issues in Europe</i></p> <p>Mario Raviglione and Knuth Lönnroth: Drivers and determinants of the tuberculosis epidemic Giovanni Battista Migliore: Social determinants of resistant tuberculosis in Europe Lucica Ditiu: Social determinants and tuberculosis control</p>
9.45–10.00	
10.00–10.15	
10.15–10.30	
10.30–10.50	Coffee break
10.50–11.05	<p>Francoise Dubois Arber: Social determinants and HIV Anne Johnson: Inequalities in access to antiretroviral therapy in Europe Bob Adak: Campylobacter infections in England and Wales – impact of ethnicity Jeremy Hawker: Socio-economic status and hospital admissions due to infectious disease Laura Rodrigues: The study of infectious intestinal disease in England</p> <p><i>Breakout session</i></p> <p>How do social determinants influence the burden of communicable diseases? Are there infectious diseases that are more affected by the socio-economic gap than others? The framework for the workshop will be set by discussing the influence of income, education, ethnicity, etc. on infectious disease. In this session the current knowledge and knowledge gaps from the disease-specific perspective (HIV/AIDS, tuberculosis, influenza, vaccine-preventable diseases, etc.) will be addressed.</p>
11.05–11.20	
11.20–11.35	
11.35–11.50	
11.50–12.05	
12.05–13.00	
13.00–14.00	
14.00–15.30	<p><i>Session 4: Interventions aimed to overcome social inequalities</i></p> <p>Jan Semenza: A framework for intervention strategies Elena Kabakchieva: Interventions aimed to overcome social inequalities</p> <p><i>Breakout session</i></p> <p>The design of interventions that deal with socio-economic inequality is mainly applied to chronic disease. When we consider communicable diseases, what kind of interventions are needed to overcome social inequality? Identifying and addressing weaknesses and strengths in the European public health infrastructure to deal with social inequality will be dealt with in this session, for example in the field of:</p> <ul style="list-style-type: none"> • Surveillance of infectious diseases, including outbreaks; • Laboratory and/or clinical diagnosis and investigation; • Health promotion and health education; • Media advocacy and outreach programmes; • Community-based participation;
14.00–14.15	
14.15–14.30	
14.30–15.30	



	<ul style="list-style-type: none"> • Access to care and preventive services (vaccinations); • Evidence-based interventions.
15.30–15.50	Tea break
15.50–18.00	<i>Session 5: Policy strategies to address social inequality</i>
15.50–16.05	Eero Lahtinen: How can we place social inequality on the communicable disease agenda?
16.05–16.20	Judith Wolleswinkel: Policy strategies to tackle social inequalities in health
16.20–18.00	<p><i>Breakout session</i></p> <p>In this session the broader socio-political context of closing health inequalities for infectious diseases will be discussed. Topics for this session may include:</p> <ul style="list-style-type: none"> • What can we learn from the history of socio-economic and political developments in Europe and changing burden of infectious disease? • Policy development to address inequality among socio-economic groups; • Regulations and law enforcement to protect marginalised groups; • Inter-sectoral action.
19.00	Dinner
27 April 2007	
9.00–9.30	<p><i>Session 6: Summary of findings from Thursday's breakout sessions</i></p> <p>Presentation and brief discussion of findings so far.</p> <p>Setting the context for identifying priority actions.</p>
9.30–11.00	<i>Session 7: Identifying priority actions</i>
9.30–11.00	<p><i>Breakout sessions</i></p> <p>In smaller groups participants will discuss strategic public health actions aimed at overcoming health inequalities in the field of infectious disease. Each group will be asked to identify priority actions and to present their findings to the complete workshop participants for further discussion (Session 8). Themes to be addressed are:</p> <ul style="list-style-type: none"> • Assessment (monitor health status of susceptible populations); • Policy development (empower communities); • Assurance (laws, regulations, public health workforce); • Research (new insights).
11.00–11.20	Coffee break
11.20–13.00	<p><i>Session 8: Drafting a public health agenda</i></p> <p>Presentation and discussion of priority actions.</p> <p>Wrapping up findings of the workshop by drafting a public health agenda.</p>
13.00 –14.00	Lunch



ANNEX 3: METHODS OF THE SYSTEMATIC LITERATURE REVIEW ON SOCIAL DETERMINANTS OF COMMUNICABLE DISEASE IN EUROPE

Medline

Limits; with abstract, humans, past ten years

(poverty OR ("Ethnic Groups"[MAJR] OR "Health Services Accessibility"[MAJR] OR "Socioeconomic Factors"[MAJR])) AND ("Virus Diseases"[MAJR] OR "Bacterial Infections and Mycoses"[MAJR] OR infect*) AND Europe: 215 articles, performed on December 22, 2006

Cochrane Library

Socio-economic, social determinant: 0 articles

Web search

Of relevant websites e.g.:

- European Commission (http://ec.europa.eu/health/ph_determinants/socio_economics/projects_socioeco_en.htm)
- World Health Organization (www.who.int/social_determinants/en/, www.euro.who.int/socialdeterminants)
- The European Health Inequalities portal www.health-inequalities.org with its tributaries such as www.chess.su.se, Eurothine etc.

The review's context is the social determinants of communicable diseases in the EU 27. Social determinants are the conditions in which people live and work, as in the conceptual framework of the WHO's Commission on Social Determinants and Health⁴⁸.



ANNEX 4: GOOD PRACTICES TO OVERCOME SOCIAL INEQUALITY IN THE FIELD OF COMMUNICABLE DISEASE

Background

Objective: to identify best practices addressing health inequalities, to be used in the field of infectious disease prevention or communicable disease control.

"The 'return' of certain infectious diseases during the last decades, namely HIV/AIDS, poses new challenges to public health, although, as yet, these causes have not gained a major impact on the morbidity of the population in general. So, nowadays the term 'inequalities in health' is associated with other forms of evidence than in the days of industrialization. Differences in the distribution of risks regarding morbidity and mortality no longer mean the threatening of individual population groups by death or malnutrition, but differences in:

- *Life-expectancy (between and within countries);*
- *Healthy life-expectancy;*
- *Distribution of risk factors;*
- *Health-related behaviour, as well as*
- *Access to health care.*"⁴⁹

Methods

Web search of relevant websites performed in January 2007:

- The Good Practice Directory of the European Health Inequalities portal www.health-inequalities.org;
- The links provided under 'national databases of good practices', from the European Health Inequalities portal, or the websites referred to when no national database was available (Table 8).
- Links from the European Health Inequalities portal:
 - European Public Health Alliance, www.ephpa.org;
 - European Union Public Health portal, ec.europa.eu/health-eu/index_en.htm;
 - International Society for Equity in Health, www.iseqh.org/index_en.htm;
 - Documentation Centre on Health Inequalities, mgzlx4.erasmusmc.nl/health_inequalities;
 - International Journal for Equity in Health, www.equityhealthj.com;
 - The Global Equity Gauge Alliance, www.gega.org.za;
 - Centre for Health Equity Studies, www.chess.su.se;
 - Centre for Evidence Based Public Health Policy, www.msoc-mrc.gla.ac.uk/Evidence/Research/Research_MAIN.html;
 - Social Variation in Health Expectancy in Europe, www.uni-duesseldorf.de/health;
 - National Institute for Clinical Excellence (NICE), www.nice.org.uk;
 - EuroHealthNet, www.eurohealthnet.eu;
- Eurothine, mgzlx4.erasmusmc.nl/eurothine/index.php?id=70,0,0,1,0,0;

- European Commission, ec.europa.eu/health/ph_determinants/socio_economics/projects_socioeco_en.htm, ec.europa.eu/health/ph_determinants/socio_economics/keydo_socioeco_en.htm;
- World Health Organization, www.who.int/social_determinants/en/, www.euro.who.int/socialdeterminants;
- World Health Organization European Office for Investment for Health and Development <http://www.euro.who.int/ihd>.

Key words used were: infection, infectious, communicable, best practice, inequity, inequality.

Table 8. National databases of good practice examined⁵⁰

Country/ region	National/ regional database	At (organisation, link)	Other organisations/links available
Czech Republic	No	Not applicable	Czech National Institute of Public Health, Centre of Health and Living Conditions www.szu.cz
Denmark	Yes	National Public Health Institute statens-folkesundhedsinstitut.dk/sund-soc/dike/fase2/default.asp 200 projects, Danish only	www.niph.dk ; Health-Cities network database, www.sundby-net.dk (Danish only)
England	No	Not applicable	Department of Health, http://www.dh.gov.uk/PolicyAndGuidance/HealthAndSocialCareTopics/HealthInequalities/fs/en
Estonia	No	Not applicable	No
Finland	No	Not applicable	National Public Health Institute, www.stakes.fi ; The TEROKA project, www.teroka.fi/teroka/index.php?option=content&pcontent=1&task=view&id=71&Itemid=102
France	No	Not applicable	No
Greece	No	Not applicable	No
Germany	Yes	www.gesundheitliche-chancengleichheit.de . In German, 2 824 projects.	No
Hungary	No	Not applicable	National Public Health Institute, www.oefi.hu (Hungarian only)
Ireland	No	Not applicable	Institute of Public Health in Ireland, www.publichealth.ie
Italy	No	Not applicable	National Public Health Institute, www.iss.it ; www.unipg.it/csesi
Latvia	No	Not applicable	No
The Netherlands	No	Not applicable	Qui database: www.quidatabank.nl ; Xs2: www.x-s2.nl
Norway	No	Not applicable	Directorate for Health and Social Affairs, www.shdir.no/ (mainly in Norwegian)



Country/ region	National/ regional database	At (organisation, link)	Other organisations/links available
Northern Ireland	No	Not applicable	Four Investing for Health Partnerships: www.southernifh.com/projects.cfm ; www.wellnet-ni.com/ ; www.westernifh.org/site/default.aspx ; www.northernifhpartners.co.uk/ .
Poland	No	Not applicable	National Public Health Institute , www.ptoz.org.pl
Scotland	No	Not applicable	National Public Health Institute, www.healthscotland.com
Slovakia	No	Not applicable	Public Health Authority of Slovak republic, http://www.uvzsr.sk/ (mainly in Slovak)
Spain	No	Not applicable	El Grupo de Género y Salud Pública, genero.sespas.es/ob_buenasp.htm
Sweden	No	Not applicable	National Public Health Institute , www.fhi.se
Wales	No	Not applicable	National Public Health Institute www.wch.wales.nhs.uk

The review's context is the social determinants of communicable diseases in the EU 27. Social determinants are the conditions in which people live and work, as in the conceptual framework of the WHO's Commission on Social Determinants and Health⁴⁸. To be included in this review, projects/practices should be mainly concerned with infectious disease, and the project should take into consideration the special needs of socio-economically disadvantaged groups. For example, a project whose aim is to facilitate the rehabilitation of prostitutes is not included in this review because infectious disease is not a major issue within the project, though part of the project is the sexual education of (ex-)prostitutes. The review is limited to information that was available in Dutch, English, French, German, Italian or Spanish.

Box 9: Closing the Gap good practice criteria

'Closing the Gap' is a three year project, in which 22 European partners are working together to develop a European knowledge base and infrastructure in order to implement and strengthen strategies and actions to reduce health inequalities at different levels⁵¹. To be nominated as a good practice it is crucial that an intervention exhibits the following characteristics:

Content

The intervention:

- Must set the reduction of health inequalities as its clear aim;
- Should target mainly persons or groups in a relative social disadvantage (as e.g. measured) by education, occupational status or income, neighbourhood or ethnicity etc.);
- Has been initiated directly by public health or health promotion field and/or is a result of intersectoral collaboration with other fields.

Effectiveness

The intervention has the intended or expected effect. In order to determine that, please ask the project leader to rate in how far the intervention's aims have been achieved. (In this context it is important to be concerned with differential effects of the intervention in socio-economic groups. In the



worst case, an intervention can result in an unexpected increase of health inequalities. Therefore it is important to discuss whether the expected effects in the socio-economically disadvantaged groups have actually been observed.)

Documentation

The intervention must be documented (design, aims and working methods) and this document should be accessible for interested parties.

Diversity

The selected interventions should:

- Be geographically well distributed (they should come from different regions of your country);
- Cover different features with regard to a) target groups (age, gender, social disadvantage), b) environment (urban, rural) and c) type of activities (individual lifestyle, social networks, living and working conditions, general socio-economic, cultural and environmental conditions).

Timing

Preferably the intervention should be ongoing.

Quality

The intervention should fulfil three of the following eleven quality elements in an exemplary way:

- Needs assessment
- Low barrier method
- Participation & commitment of target group
- Empowerment of target group
- Setting approach
- Collaborative capacity building/partnership
- Snowballing/multiplier/intermediaries concept
- Quality management
- Evaluation
- Proportionality
- Sustainability

The realisation of three of these quality elements will have to be described in the frame of the Good Practice assessment.

Note: There are some 'musts' (content, effectiveness and documentation) and some recommendations (diversity, timing). The quality elements, three of which should be fulfilled by the intervention, serve to describe the speciality/profile of the intervention.

Results

Summarising, there are three databases online that can be searched for best practices in the field of health inequalities: (1) Closing the Gap; (2) Health Promotion for Marginalised Groups (Gesundheitsförderung bei sozial Benachteiligten); and (3) the QUI-database, directed at health promotion and prevention. In addition one report from EuroHealthNet that identified best practices was found⁵².



In these three databases and the one report ten best practices were described with relevance to this workshop (Table 9). All ten practices were interventions aimed at the prevention or treatment of HIV/AIDS and/or sexually transmitted disease (STI).

Discussion and conclusion

There is an abundance of intersectoral community projects aimed at health in general, and projects aimed at chronic diseases in particular, mainly at diabetes and other cardiovascular risk factors. In addition, there were many projects described that are aimed at marginalised groups, but without a specific aim that is related to communicable disease.

Although relevant projects may have been missed because of language restrictions, or because useful information is not available on the internet, this concise review shows that there is little attention to overcoming social inequality in the field of communicable disease. Projects that do concern infectious disease are mainly concerned with HIV and STI prevention.

Table 9: Overview of described good practices that aim to overcome social inequalities in communicable disease prevention and control

Assessment	Project name	Key words	Country	Target groups	Aims relevant to the ECDC workshop	Source
Good Practice assessment by Closing the Gap	Project Jiwi	HIV, AIDS, sexual behaviour, sex education.	United Kingdom	11–25 year olds, with difficult access to usual sex education e.g. those with learning disabilities, deaf adolescents, homeless, excluded from education, autistic spectrum children.	Reduce the incidence of STI & HIV in vulnerable young people.	http://www.health-inequalities.org/?uid=46a4f088c0f71c3b627527ef1ba46ef0&id=search2&sid=list&idx=102&x=detail
Good Practice assessment by Closing the Gap and EuroHealthNet	Healthy Parenthood	HIV, AIDS, sexual behaviour, sex education.	Czech Republic	Adolescents and adults from lower socio-economic groups, including Roma and Sinti.	Gradual improvement of knowledge, opinions and attitudes of the population, especially adolescents, including Romany adolescents and adults (girls and women and their partners) in the sense of free, open and responsible patterns of behaviour, proceedings and decision making as well-informed, competent and responsible citizens.	http://www.health-inequalities.org/?uid=46a4f088c0f71c3b627527ef1ba46ef0&id=search2&sid=list&idx=103&x=detail
Good Practice assessment by Closing the Gap	Prevention of Mother To Child Transmission of HIV	HIV, AIDS, PMTCT.	Estonia	Ethnic minorities e.g. Sinti, Roma. Substance abusers.	To improve access to quality services offered to HIV-positive pregnant women and their infants in East-Viru County and to reduce the risk of MTCT of HIV during pregnancy and delivery.	http://www.health-inequalities.org/?uid=46a4f088c0f71c3b627527ef1ba46ef0&id=search2&sid=list&idx=124&x=detail
Good Practice assessment by Closing the Gap	Design of a booklet as a tool for health education in the women's penitentiary module of Zuera	HIV, AIDS, sexual behaviour, sex education.	Spain	(Ex)prisoners.	Health promotion among the prison population.	http://www.health-inequalities.org/?uid=46a4f088c0f71c3b627527ef1ba46ef0&id=search2&sid=list&idx=139&x=detail
Good practice assessment by	Gesundheitsförderung für	HIV, Aids, prevention.	Germany	Asylum seekers, refugees, illegals, migrants.	STI prevention.	http://www.gesundheitliche-chancengleichheit.de/?uid=b6e

Assessment	Project name	Key words	Country	Target groups	Aims relevant to the ECDC workshop	Source
cooperative	Migrantinnen					892fc388174a925ccff6584a3a452&id=suche&ssub=2&nr=1
Good practice assessment by cooperative	MIGES - Migration und Gesundheit	HIV, Aids, prevention.	Germany	Migrants, especially Turkish women.	STI prevention.	http://www.gesundheitliche-chancengleichheit.de/?uid=b6e892fc388174a925ccff6584a3a452&id=suche&ssub=2&nr=2
Good practice assessment by cooperative	Mit Migranten für Migranten-Interkulturelle Gesundheit in Deutschland (MiMi)	HIV, Aids, prevention.	Germany	Asylum seekers, refugees, illegals, migrants, people with a low income or a low education.	Not described.	http://www.gesundheitliche-chancengleichheit.de/?uid=b6e892fc388174a925ccff6584a3a452&id=suche&ssub=2&nr=3
Good practice assessment by QUI-project	Amor i Salu	STI, prevention, education.	Netherlands	Migrants from the Dutch Antilles from 15 - 50 y.	To promote safe sex.	http://www.quidatabank.nl/kr_nigz/statpagina/verdiepingsstudie.pdf
EuroHealthNet	Dia+Logs	HIV, AIDS, counselling, testing, prevention, support, needle exchange.	Latvia	People living with HIV AIDS and those at risk of developing HIV AIDS (at risk youth, intravenous drug users, commercial sex workers, gay men, etc) interested/ involved stakeholders and the health care community.	To operate a low thresh-hold drop in centre that provides support, counselling and information to people with HIV/AIDS and other relevant parties and to advocate for their interests.	(52)
EuroHealthNet	Health Education Workshop	Workshop, HIV, AIDS, drug abuse.	Spain	Inmates that are drug users participating in prison's Syringe Exchange or Maintenance with Methadone Programme.	To develop knowledge, attitudes and skills favouring a positive exchange in the risk conduct of drug users.	(52)

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