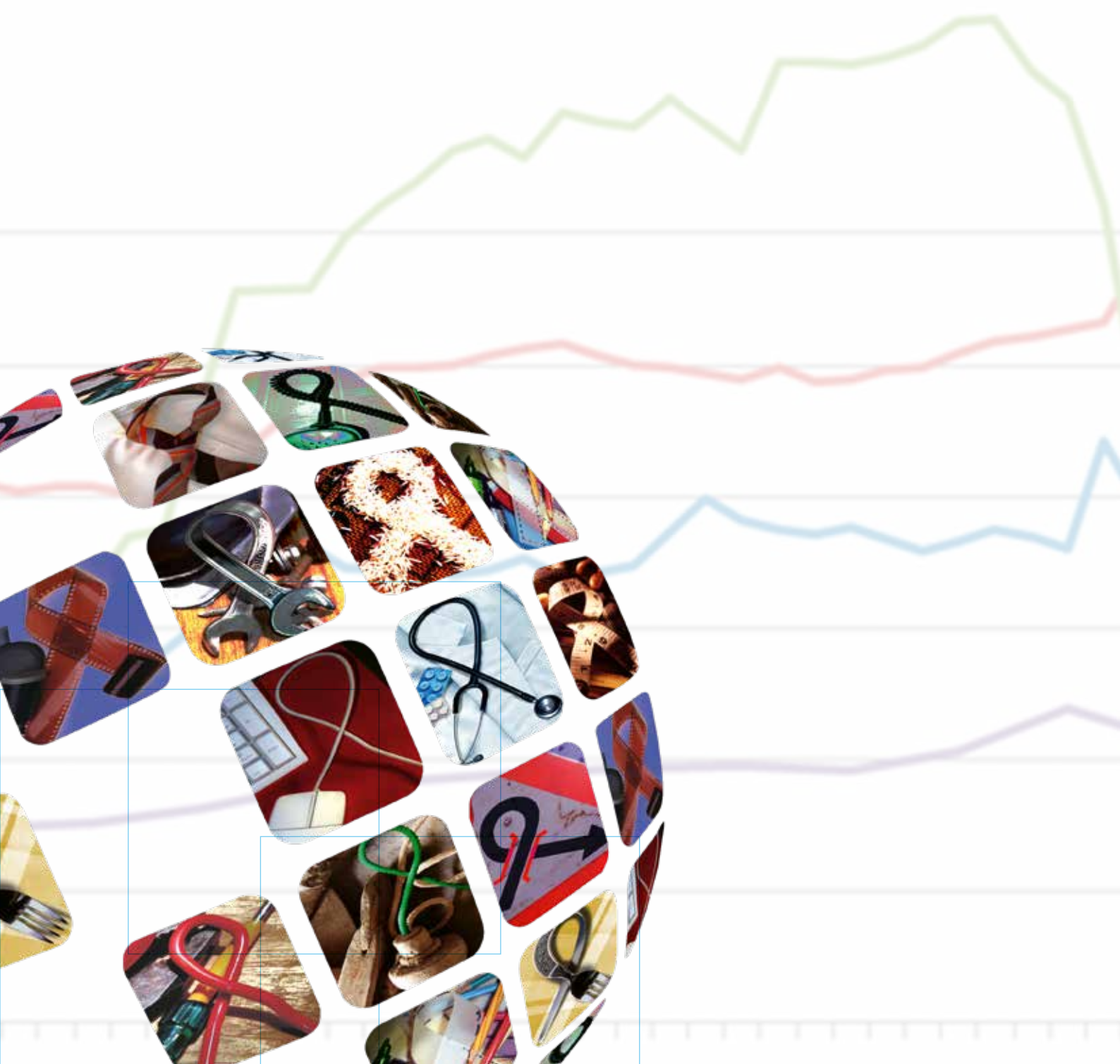




International  
Labour  
Office

# The impact of HIV and AIDS on the world of work: Global estimates



***The impact of HIV and AIDS on the world of work: Global estimates***

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## *Preface*

The majority of people living with or affected by HIV are of working age. Understanding the consequences of HIV and AIDS on the labour force, on productivity and on economic growth is, therefore, essential. This report is the result of extensive research undertaken to assess the impact of HIV and AIDS on the world of work, with the aim of providing ILO constituents and other stakeholders with quantitative information to inform policy responses.

This report analyses relevant data from often unique perspectives to give a clearer picture of the impact of HIV and AIDS on the world of work. The publication presents estimates of the number of workers living with HIV, AIDS-related deaths and morbidity among the working populations, and assesses the economic and social impacts of HIV and AIDS.

The findings are sobering, for example: the number of people living with HIV in the labour force has continued to increase, and will reach 29.9 million in 2020; AIDS will cost a projected 7.2 billion USD in lost earnings; almost half a million labour-force deaths projected for 2020 are almost entirely avoidable. While significant strides have been made in the AIDS response, major gaps remain, which need to be addressed urgently.

Since 2000, the ILO has been supporting governments, employers' and workers' organizations and other world of work stakeholders in responding to HIV and AIDS at national, regional and global levels. Over the years the ILO has published ground-breaking research, including the 2004 report on HIV/AIDS and work: Estimates, impact and response, and the 2006 global estimates on the HIV/AIDS impact on children and youth.

In 2018, it is indeed timely to present new expanded and updated research, as set out in this report, to measure the impact of HIV and AIDS on the work of work.

This report is intended to inform national HIV and AIDS responses in the world of work, as well as workplace policies.

We hope this report, by providing a deeper understanding of the impact of HIV and AIDS on the world of work, through the collection, analysis and dissemination of key data, will support programmes and policies that will reach the right people in the right places and at the right time.

Shauna Olney  
Chief  
Gender, Equality and Diversity & ILOAIDS Branch  
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The report was authored by Professor Peter Dorman, Ph.D., Economist, Evergreen State College, Washington, USA, with essential data provided by UNAIDS. It was based on preparatory work undertaken by Jag Seghal, Demographer and Fhrad Mehran, Statistician.

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Our thanks also go to Michael Reid, who edited the text, and to the anonymous peer reviewers who provided essential comments.

## ***Acronyms and Abbreviations***



AES	Africa – Eastern and Southern regional group
AIDS	Acquired Immune Deficiency Syndrome
AP	Asia and Pacific regional group
ART	Antiretroviral therapy
ARVs	Antiretroviral drugs
AWC	Africa – West and Central regional group
CD4	Bloodstream cells (Cluster of Differentiation 4) that support the immune system
CSAVR	Case surveillance and vital registration, a set of case-based epidemiological tools
DHS	Demographic and Health Surveys
EECA	Eastern Europe and Central Asia regional group
EPP	Estimates and Projections Package, a set of population-based epidemiological tools
GDP	Gross Domestic Product
GWR	Global Wage Report, a publication/database assembled by the ILO
HIV	Human immunodeficiency virus
ILO	International Labour Organization
ILOAIDS	Unit in the ILO responsible for HIV and AIDS in the world of work, in the Gender, Equality and Diversity &ILOAIDS Branch
IMF	International Monetary Fund
LAC	Latin America and the Caribbean regional group
MENA	Middle East and North Africa regional group
PPP	Purchasing Power Parity, a rate of exchange to US dollars that equalizes the value of a shared basket of goods
UNAIDS	Joint United Nations Programme on HIV/AIDS
UNESCO	United Nations Educational, Scientific, and Cultural Organization
WENA	Western and Central Europe and North America regional group
WEO	World Economic Outlook, a report/database assembled by the IMF
WHO	World Health Organization





## *Executive summary*

Thanks to the development of antiretroviral therapy (ART) and its rapid and widespread uptake, the tide has turned in the response to HIV and AIDS. New infections have slowed, and are likely to decrease more rapidly as more people living with HIV receive ART, reducing their viral load and eventually reducing transmission. People living with HIV who access ART and are able to adhere to the protocol can now lead full lives. Nevertheless, ART uptake has not been sufficiently comprehensive to reach all who need it, and many thousands of deaths and cases of impaired life and livelihood will ensue due to these gaps. In addition, resistance to the most commonly used antiretroviral drugs (ARVs) has increased, reducing the effectiveness of treatment and requiring investments in new surveillance programmes and treatment regimens. The most recent data from UNAIDS indicate that progress in reaching the 2020 targets (on knowledge of HIV status, receiving sustained ART, and viral suppression) has been slower than hoped for (UNAIDS, 2017).

This report examines how the evolution of the HIV epidemic and the scale-up of ART have impacted on the global labour force, and how it is projected to do so in the future. The report sets out estimates of the numbers of people living with HIV and HIV prevalence, and AIDS-related deaths and morbidity among the working populations of all countries for which data are available, and assesses the economic and social impacts of HIV on workers and their households. The methodology employed begins with health data, uses economic and demographic information to identify specific populations likely to be affected, and then relies on a range of survey-based studies to translate health outcomes into economic and social impacts (this methodology is described in detail in the appendix). A key resource is the set of national, regional and global epidemiological estimates assembled by UNAIDS from surveillance, survey and related data. UNAIDS provides modelling tools to teams in each country that enable these partial data to be extrapolated into population estimates. Projections to 2020 build upon these models, taking into account demographic and epidemiological trends and factoring in anticipated ART uptake. For this report, estimates at the population level have been converted into estimates for workers only by multiplying them by the labour force participation rate for men and women separately in each country. Therefore, the end of the report period coincides with the 2020 target date set by UNAIDS in conjunction with its strategy of ‘Fast-Tracking to Zero’ (UNAIDS, 2015).

Snapshots at five year intervals are provided of HIV prevalence, deaths, and full and partial inability to work for the male and female labour force by country, globally, and for various groups of countries – geographic regions, groups based on average gross domestic product (GDP) per capita and countries designated as Fast Track by UNAIDS. Five impacts are also estimated:

- lost earnings attributable to either death or full inability to work (withdrawal from the labour force);
- lost earnings attributable to partial inability to work due to AIDS symptoms;
- time devoted to care work within the household for workers either fully or partially unable to work, measured in work-year equivalents;
- extra time children devote to chores in AIDS-affected households, measured in child labour equivalents;
- number of children whose education is impaired due to living in AIDS-affected households.

These were chosen because they have been identified in prior research on the socio-economic effects of AIDS, and because most of the necessary data were available. Other possible impacts, such as the effects of AIDS morbidity and mortality on different sectors of a country's economy, would be valuable to know, but the data are insufficient.

The main findings set out in the report are as follows:

#### (a) Prevalence

The number of people living with HIV in the labour force increased between 2005 and 2015, and will continue to increase even if ART is scaled up as projected. Despite the continued decline in new infections, the success of ART will keep people alive longer, allowing them to be active participants in the labour force. This can be seen in figure S-1, which shows the observed and projected number of cases among the global labour force over the 2005–2020 period. Total projected prevalence in 2020 is approximately 29.9 million people.

**Figure S-1: Number of people living with HIV in the global labour force by sex, 2005–2020, in millions**



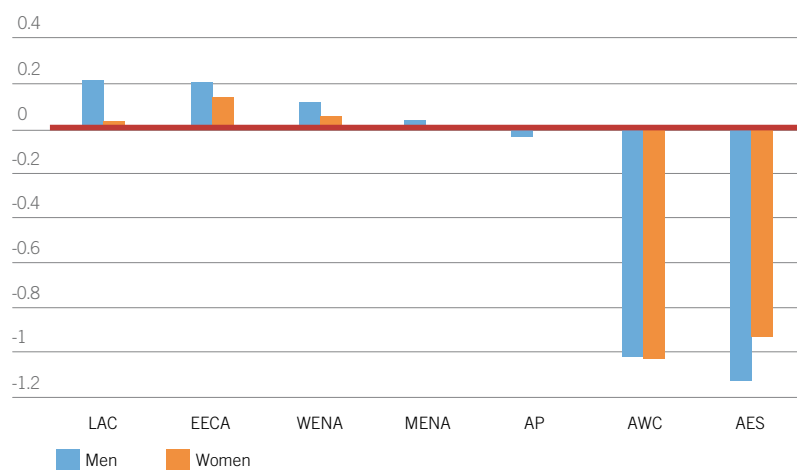
The number of cases for ages 15 and over in the full population, multiplied by the labour force participation rates for men and women separately. 2005, 2010 and 2015 are derived from estimates; 2020 is a projection.

Source: ILO calculations based on UNAIDS 2016 estimates

Prevalence rates are slightly higher for women than for men, but men account for most cases because of their higher labour force participation rates.

An important aspect of changing HIV prevalence is the relative shift across the geographic regions defined by the World Health Organization and used by UNAIDS. This is shown in Figure S-2, which includes projections showing that prevalence in Latin America and the Caribbean, Eastern Europe and Central Asia, Western and Central Europe and North America, and the Middle East and North Africa is likely to increase by 2020, and to decrease in Asia and Pacific, and the two regions of sub-Saharan Africa; it must be kept in mind, however, that the changes in percentages are applied to a far higher base in sub-Saharan Africa (for instance) than regions expected to experience increasing prevalence as 2020 approaches.

**Figure S-2: Changes in HIV prevalence by region and sex, 2005–2020**



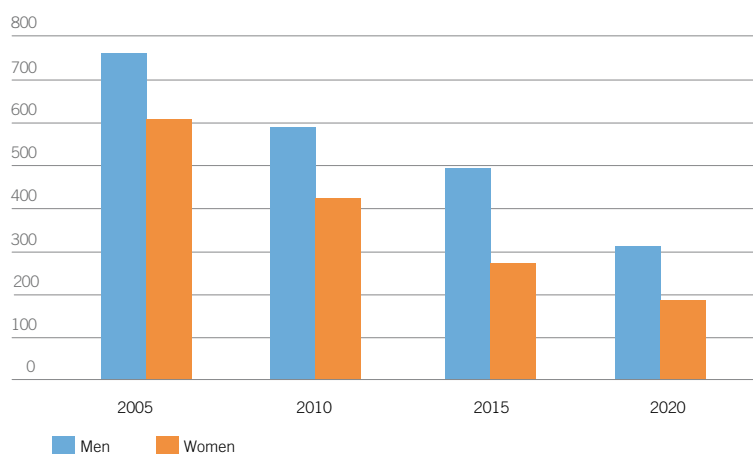
The HIV workforce prevalence rate in 2020, minus the rate in 2005. The regional codes are Latin America and the Caribbean (LAC), Eastern Europe and Central Asia (EECA), Western and Central Europe and North America (WENA), Middle East and North Africa (MENA), Asia and Pacific (AP), Africa – West and Central (AWC), and Africa – Eastern and Southern (AES).

Source: ILO calculations based on UNAIDS 2016 estimates

## (b) Mortality

Mortality has declined dramatically for both men and women in the labour force, as demonstrated in figure S-3. Increased access to ART has greatly reduced the severity of AIDS symptoms for millions of people, but its success demonstrates the urgency of even greater effort: the approximate 500,000 labour-force deaths projected for 2020 are almost entirely avoidable. It is important to note that, while the trend in reduced mortality is approximately unchanged over the 15-year

**Figure S-3: Global labour force deaths attributable to HIV and AIDS by sex, 2005–2020, in thousands**



AIDS-related mortality for the global population age 15 and over, multiplied by the separate labour force participation rates for men and women.

Source: ILO calculations based on UNAIDS 2016 estimates

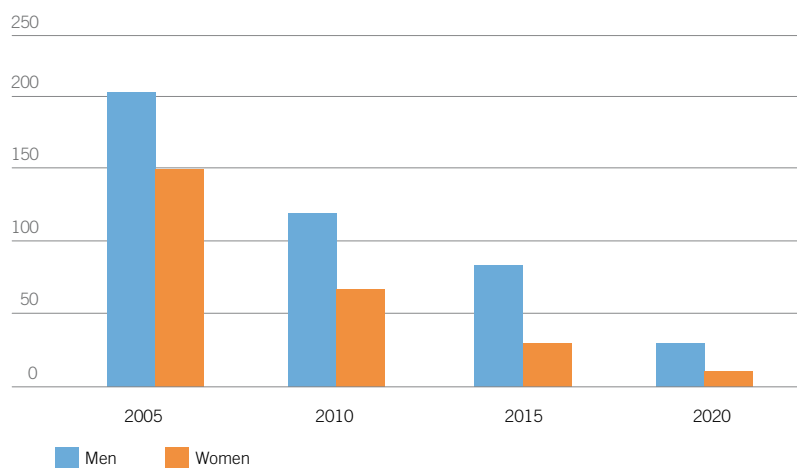
period for women, it accelerates only over the final five years for men based on 2020 projections.

It should be emphasized that, as the findings demonstrate, AIDS most commonly strikes down workers in the prime of life, when they are at the highest levels of productivity for themselves, their families and society. The greatest incidence of mortality is among workers in their late 30s, while they are still vigorous but have also acquired skills and experience.

### **(c) Work impairment**

The number of workers either fully or partially unable to work due to HIV and AIDS has fallen dramatically since 2005, and this trend is projected to continue, as portrayed in figures S-4 and S-5. The total number of those estimated to be fully unable to work is expected to decline to about 40,000 in 2020 from a 2005 level of about 350,000 – an 85 per cent decline for men and a 93 per cent decline for women. The corresponding decline for partial inability to work is from 655,000 to 95,000, 81 per cent for men and 91 per cent for women. These trends largely follow those for mortality, except that the number of cases is lower. A high proportion of those identified as likely to be work-impaired are also facing death in the near future due to their lack of access to ART. Again, these impacts are largely avoidable.

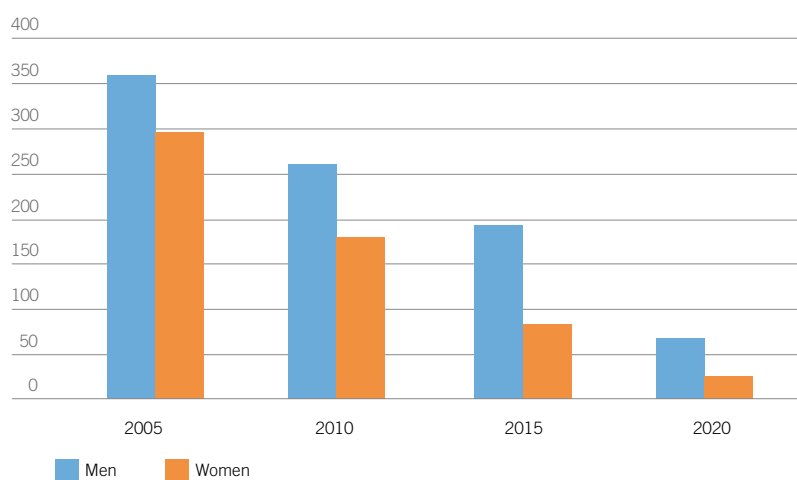
**Figure S-4: Global labour force fully unable to work due to HIV and AIDS by sex, 2005–2020, in thousands**



Individuals in the global work force fully unable to work due to AIDS (estimate), using baseline assumption of 50 per cent of those with CD4 counts <100. (See p. 14.) 2005, 2010 and 2015 are derived from estimates; 2020 is a projection.

Source: ILO calculations based on UNAIDS 2016 estimates

**Figure S-5: Global labour force partially unable to work due to HIV and AIDS, 2005–2020, by sex, in thousands**



Individuals in the global work force partially unable to work due to AIDS (estimate), using baseline assumption of 50 per cent of those with CD4 counts from 100–199. (See p. 14.) 2005, 2010 and 2015 are derived from estimates; 2020 is a projection.

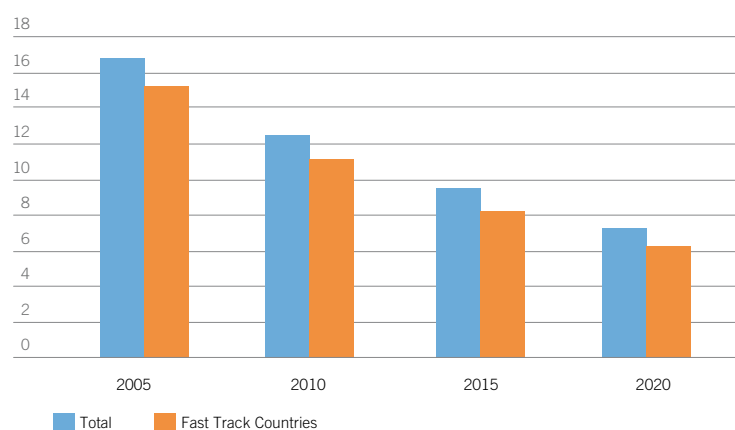
Source: ILO calculations based on UNAIDS 2016 estimates

Estimates of the extent of work impairment are based on assumptions regarding the severity of symptoms associated with measurements of protective CD4 cells in blood samples, where lower counts signify greater progression of the infection. In the absence of systematic evidence, the translation of these symptoms into expected workforce withdrawal and productivity loss is based on the opinion of experts consulted in the course of preparing this report.

#### (d) Impact 1: Lost earnings attributable to death or full inability to work

As with other indicators, lost earnings show a substantial decline from 2005 for the world as a whole and Fast Track countries that have been given a priority status by UNAIDS, as seen in figure S-6. However, even in 2020, at the end of the period under review, lost earnings due to AIDS, would still reach a massive \$7.2 billion.

**Figure S-6: Lost earnings due to labour force deaths or withdrawals attributable to AIDS, globally and in UNAIDS Fast Track countries, 2005–2020, in billions of 2010 \$PPP**



The global total of average earnings measured in billions of 2010 US dollars purchasing power parity exchange rates at the country level, multiplied by the corresponding number of deaths and estimates of full inability to work.

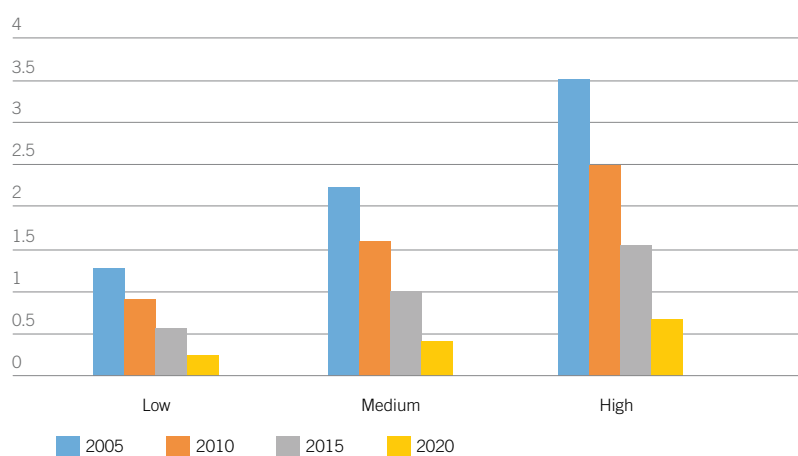
Sources: UNAIDS and ILO Global Wage Report (GWR) databases, ILO calculations

For lost earnings, it was assumed that the population of those withdrawn from the labour force by death or disability had the same average earnings as the general population in each country. This assumption, which also implicitly recognizes the contribution of work in the informal economy, enabled the use of the ILO's wage database, with supplementary estimates for countries not in this database.

### (e) Impact 2: Lost earnings due to partial inability to work attributable to AIDS

Figure S-7 shows that the reduction in this impact, measured under three different assumptions, continues over the entire study period, ending in 2020 at about 20 per cent of its initial 2005 level, reflecting the rapid decline in the number of workers with low CD4 counts attributable to ART uptake.

**Figure S-7: Global lost earnings due to diminished productivity attributable to AIDS, 2005–2020, under three earnings loss scenarios, in billions 2010 \$PPP**



Global total of average earnings at the country level, multiplied by the corresponding number of individuals estimated to be partially unable to work, multiplied by the percentage productivity loss under three loss scenarios.

Sources: UNAIDS and GWR databases, ILO calculations

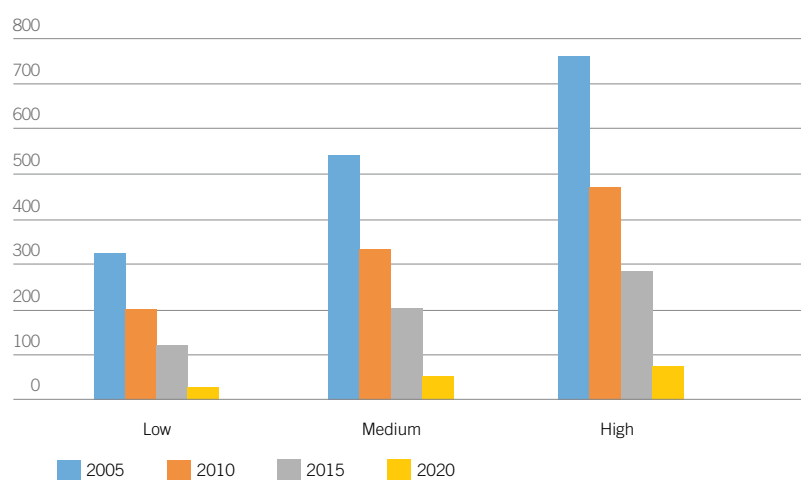
Three scenarios of potential productivity impacts were considered based on the range of results observed in the literature (see section II for the basis for these scenarios, as well as those set out in figures S-8, S-9 and S-10). Taking the medium scenario as the baseline, the lost earnings due to partial inability to work decline from about 13 per cent (2005) to 6 per cent (2020) of the combined costs for deaths and labour force withdrawals. This is a further indication of rising ART uptake, as relatively fewer workers in each succeeding year are predicted to enter the initial stages of significant health and productivity impacts.

### (f) Impact 3: Additional care work in AIDS-affected households

With this impact, the analysis shifts from global to mostly developing countries in which health care is less institutionalized and households shoulder more of the burden of care work. Figure S-8, representing three measurement scenarios, displays a dramatic reduction in care work over the estimation period. Taking the

medium scenario as the baseline, care work declines from more than half a million people in 2005 to just over 50,000 in 2020. As with the other indicators, however, there remain significant numbers at the end of the study period due to incomplete scale-up of ART: care work effectively multiplies the number of individuals affected by severe AIDS symptoms. Health data make the direct impact of AIDS statistically visible, though there is an ‘invisible’ but real impact on those who live in AIDS-affected households.

**Figure S-8: Global household care work for workers with severe AIDS symptoms over three burden scenarios, 2005–2020, in thousands of work-years**



Calculated from the combined number of individuals estimated to be partially or fully unable to work, multiplied by the ratio of households to cases, both at country level, multiplied by the hours of care work per week under three burden scenarios.

Sources: UNAIDS 2016 estimates, Demographic and Health Surveys (DHS) with AIDS modules, ILO calculations

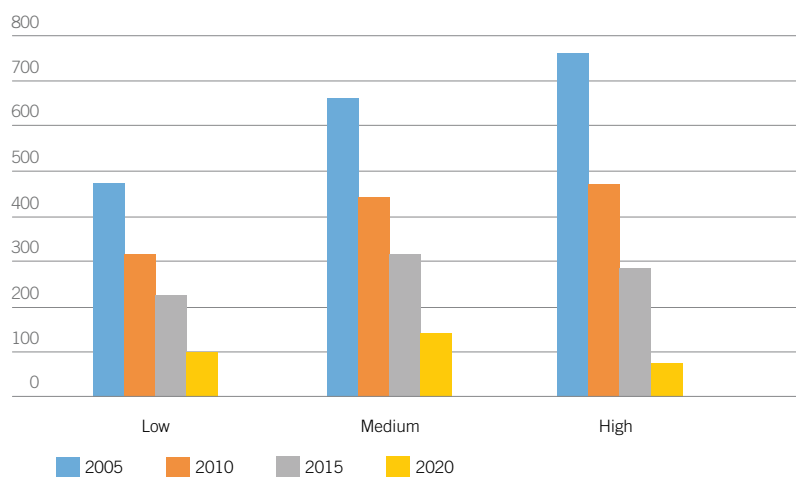
Once more three scenarios were considered based on the range of findings in the literature on the care burden in AIDS-affected households. The results are expressed as a number of work-years, the 2,000 hours someone would work over the course of a year if they worked for 50 weeks at 40 hours per week; this allows the visualization of the care burden as if it were a work activity requiring a given number of people to perform full-time.

#### **(g) Impact 4: Additional chores performed by children in AIDS-affected households**

Workers unable to perform their tasks are probably also unable to perform many tasks at home. If other household members are called on to provide care, someone must fill in to perform cleaning, cooking, child care and other activities. Children are often called on to supply this missing household labour, and in the aggregate, this can be viewed as a form of child labour. Figure S-9 shows a rapid and continuing decline in this burden over the estimation period irrespective of which measurement scenario is adopted.



**Figure S-9: Global chore burden for households with workers with severe AIDS symptoms over three burden scenarios, 2005–2020, in thousands of child labour equivalents**



Calculated as the number of deaths plus the combined numbers of those partially or fully unable to work, multiplied by the households per AIDS cases, multiplied by the children per household, all at country level, multiplied by chore hours per week under three burden scenarios.

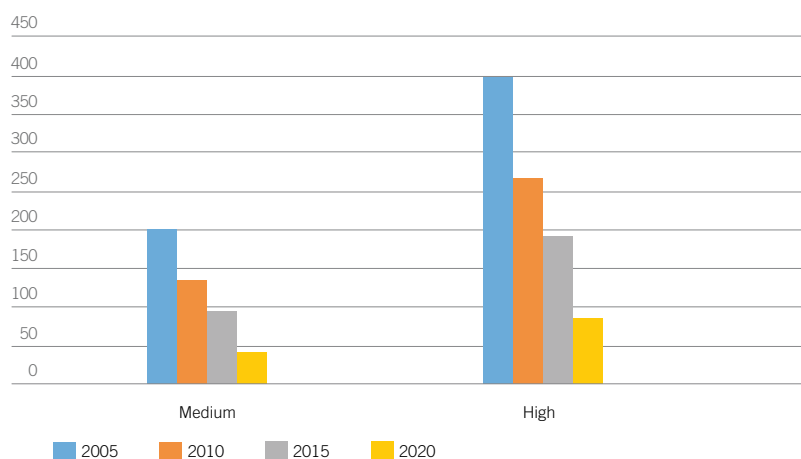
Sources: UNAIDS 2016 estimates, DHS surveys with AIDS modules, ILO calculations

There is uncertainty over how many hours of household chores are required before a child is deemed a child labourer, but the ILO recommends a cut-off of 21 hours per week. Therefore, the total weekly chore hours estimated to be supplied by children in AIDS-affected households has been divided by 21 to get child labour equivalents, and we report estimates based on three measurement scenarios that reflect the range of chore burdens identified in the case study literature.

#### **(h) Impact 5: Impaired education of children living in AIDS-affected households**

In the early stages of the AIDS epidemic, there was concern that a generation of children would suffer education loss due to being orphaned or to household disruption and stress. Fortunately, research has shown that many households appear to be adaptable in this respect, and education costs are likely to be minimal in much of the world (Ainsworth and Filmer, 2002). The low burden scenario is no impairment to education, whereas for medium and high scenarios, in this report 5 per cent and 10 per cent of such children are considered at risk respectively. As can be seen in figure S-10, the numbers are relatively low, even in the high scenario. Of course, this evaluation is meaningful only in relative terms: the number of educationally impaired children in AIDS-affected households is modest relative to the total number of children whose education is at risk from a wider range of factors. However, that as many as 84,000 children in AIDS-affected households face diminished educational opportunities by 2020 is still a significant number.

**Figure S-10: Global count, children in AIDS-affected households with impaired education over two burden scenarios, 2005–2020, in thousands**



Calculated as the number of deaths plus the combined numbers of those partially or fully unable to work, multiplied by the households per AIDS cases, multiplied by the children per household, all at country level, multiplied by rate of education impairment under two burden scenarios.

Sources: UNAIDS 2016 estimates, DHS surveys with AIDS modules, ILO calculations

In summary, great strides have been made in extending ART to the millions of people living with HIV throughout the world. At the same time, while prevention has advanced nearly everywhere, with major gains in many of the UNAIDS Fast Track countries, remaining gaps have resulted in the disease spreading to new regions. This is reflected in trends affecting the global labour force. Lost earnings continue to be a significant consequence, especially since there is a modest shift in newer AIDS cases towards relatively higher-income countries. The work and education burdens experienced by AIDS-affected households are expected to decline more rapidly, but as morbidity and mortality remain a concern, so do these secondary impacts. It is also important to bear in mind that the improvements in most indicators forecast in this report are vulnerable to future emergence and transmission of antiretroviral drug resistance, and that greater attention to this risk is needed if the gains that have been documented are to be sustained.

The task of estimating these impacts draws attention to the need to better integrate health data with social and economic data. Workers are human beings subject to the health risks faced by the whole population, but they are also the foundation of any economy. Their households are primary sites for the equally necessary work of social reproduction, including the preparation of children for education and future adulthood. Bringing public health policy together with social and economic policy requires data that capture all dimensions of multifaceted HIV-related diseases.



## *1. Introduction*

This is a time of transition for the global effort to reverse the spread and human costs of HIV and AIDS. The good news is that the number of new infections has fallen substantially since the beginning of the millennium, and effective treatment has become both possible and widespread. Against this are the spread of HIV to millions of new individuals and the large number of people living with HIV who ought to be receiving treatment but are not. On the horizon is the emergence of resistance to most commonly used antiretroviral drugs, which will require greater prevention and surveillance efforts in response.

These trends have been documented for the global population in the most recent UNAIDS report on Ending AIDS (UNAIDS, 2017). The level of new HIV infections has fallen from 2.1 million cases in 2010 to an estimated 1.8 million in 2016; nevertheless, the number of those living with HIV has continued to increase as new infections are added to old, and by 2016 it was estimated at 36.7 million. Despite the relative progress that these numbers indicate, the Fast Track goal of reducing new infections to 500,000 per year by 2020 is unlikely to be met. At the same time, it is still possible that UNAIDS' 90-90-90 targets for 2020 – 90 per cent of all people living with HIV will know their HIV status, 90 per cent of all people with diagnosed HIV infection will receive sustained antiretroviral therapy, and 90 per cent of all people receiving antiretroviral therapy will have viral suppression – remain within reach. Current estimates are 70 per cent, 77 per cent and 82 per cent respectively (UNAIDS, 2017).

Without question the most significant development is the progress in effective antiretroviral treatment (ART). New drugs, administered in accordance with the World Health Organization protocol, enable most users to lead full lives at minimal expense. According to the most recent UNAIDS estimates, as of 2016, nearly 20 million people – more than half the HIV-positive population – were on ART. This is reflected in the decline in the number of AIDS-related deaths, down to approximately 1 million in 2016 from a peak of 1.9 million in 2005, despite the continued increase in the number of people living with HIV (UNAIDS, 2017).

From these data, it is clear that progress towards a world free of the ravages of HIV and AIDS has been substantial but incomplete. Incidence (new infections) is trending down, but prevalence continues to rise. Treatment is making major inroads on death and suffering, but millions who should be receiving this treatment are not. As the most recent UNAIDS strategy document points out, due to insufficient testing, half of those living with HIV do not know their status, which is a further impediment to timely treatment (UNAIDS, 2015). Of greater concern is the increasing prevalence of drug-resistant HIV. The most recent survey evidence shows that an average 8.3 per cent of all individuals initiating ART for the first time have a drug-resistant virus, and the proportion rises to 21.6 per cent for those with prior antiretroviral drug exposures, typically after either interrupted

treatment or, for women, after participation in broad-based programmes to forestall mother-to-child transmission of the disease. There is substantial variation across countries; average overall country resistance levels in 2016 are estimated to range from 7.2 per cent to 15.5 per cent. In many low- and middle-income countries, the prevalence of resistance is rising at an increasing rate. So, despite all that has been accomplished in the HIV response, much more needs to be done. In addition to expanding existing surveillance and treatment programmes, more resources will need to be devoted to the prompt identification of people failing on first-line regimens so they can be switched to appropriate second- and third-line drugs, which are currently more expensive. It will also be important to initiate people on first-line regimens based on a new drug class (for example, dolutegravir), and to strengthen ART clinic and programme functioning, in response to gaps in service delivery identified through routine monitoring and reporting of early warning indicators of HIV drug resistance (clinical and programme factors known to be associated with the emergence and transmission of drug-resistant virus), at all ART clinics (WHO, 2017).

In this report, it is shown how these trends are reflected in the global workforce: how premature death and debilitation have removed millions of productive people from work; how the productivity of those with the most advanced symptoms has been diminished; and how these impacts have been transmitted to the families of workers living with HIV, with both immediate and long-term consequences. The key resource is an adaptation of the UNAIDS epidemiological database that provides prevalence and severity (CD4 count) data specifically for individuals of working age, adjusted for labour force participation rates. From this inferences can be made regarding labour force deaths, withdrawals and reduced productivity, and combining these impacts with wage and household responses, estimates can be made on the economic consequences. There has been enormous progress in slowing the spread of HIV and reducing its impact on workers, their families and their communities, but from these impacts, the report shows the additional costs that will ensue if we fail to complete the job.

Although the report focuses on the global labour force as a population subject to the gains and losses of the struggle against HIV and AIDS, it should be remembered that workers are also agents of their own health and betterment. The first of the 90-90-90 UNAIDS targets highlights raising awareness and testing as the starting points for all subsequent strategies. Workers, through involvement at their workplaces, can and should be key participants in this effort, aided by adherence to the ILO code of practice on HIV/AIDS and the world of work, which protects the security of people living with HIV (ILO, 2001), and guided by the ILO HIV and AIDS Recommendation, 2010 (No. 200). In many communities, workplaces are the most important locations where people come together, share experiences and formulate common goals. By shining a clearer light on the stake that workers and their households have in accelerated progress against the disease, it is hoped that this report will further encourage workplace-centred efforts to achieve the ambitious 90-90-90 targets.



## II. Methodology

Any attempt to convert prevalence, morbidity and mortality numbers into social and economic costs faces significant gaps in the data. We do not know as much as we should about who is affected by AIDS, what occupations they are engaged in, or what their earnings are, much less how their disease affects those who share their lives. For understandable reasons, public health data focus on health outcomes and give less attention to the economic and social context. Nevertheless, for policy formulation, programmes and outcomes encompassing health, employment, education and related domains interact and overlap, and it is important to develop a holistic perspective. What is the relationship between action to prevent HIV and mitigate the impact of AIDS and measures to extend social protection, ensure education for all and address gender inequality? This report addresses such questions, to the extent possible given the available data. The results have been obtained only through methods that rely on assumptions and extrapolations that embody a degree of uncertainty. From the outset, explanations are provided on the steps taken to produce them and identify with transparency the range of uncertainty that surrounds them.

The starting point is an epidemiological database supplied by UNAIDS. This provides estimates for HIV prevalence, CD4 blood counts,<sup>1</sup> mortality, and ART treatment levels, all disaggregated by age and sex, for 153 countries, encompassing most of the world. To obtain these estimates, country teams, using models developed by UNAIDS and its partners, combine several data sources the comprehensiveness of which varies across countries. For countries with significant HIV prevalence over the entire population, dedicated HIV surveillance and representative surveys play a crucial role; in others, where HIV is concentrated in particular subpopulations, data collection is targeted at those groups. A range of models are available for constructing population estimates and time trends, with more elaborate versions (with more parameters) employed where data are ample, and simpler models otherwise. In some cases where data are especially scarce, estimates draw on regional patterns and expert opinion.<sup>2</sup> It is important to note that the epidemiological estimates on which this report is based are not exact, but as accurate as possible given the uneven availability of data across countries and over time. Data limitations also restrict the scope of this report in another way: it is not possible to disaggregate HIV prevalence by occupation, which means it is not possible to apply the findings to particular economic sectors or socioeconomic groups.

The report draws on five-year intervals from 2005–2020, where figures for 2005, 2010 and 2015 are estimated from actual sample data, while those for 2020 are based on projections. The key element in these projections is the anticipated extent of ART coverage over the years from 2015 to 2020. This, in turn, depends on the

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1. CD4 counts measure the concentration of protective CD4 cells per mm<sup>3</sup> of blood, an indicator of the progress of the infection, where lower counts mean greater vulnerability.

2. A more detailed description of UNAIDS epidemiological methodology, including projections to 2020, is provided in the appendix.

endpoint envisioned for 2020, since intervening years are back-calculated. The 2020 ART coverage (and its effectiveness in light of emerging antiretroviral drug resistance) is proposed in each country by its national team working in collaboration with UNAIDS. Their approaches differ, and this adds further uncertainty to the epidemiological starting point. Of course, ART uptake over the coming years is uncertain, and that fact should be weighed when considering the impacts discussed in this report.

Projections for ART coverage have two effects on the estimates. First, because treatment has such a dramatic effect on AIDS symptoms, the analysis of economic and social impacts is confined only to individuals who are not on ART, as determined through UNAIDS epidemiological estimates. Second, ART reduces HIV transmission rates, so greater uptake in one period will mean a relatively lower number of people living with HIV in the next: in itself, reduced transmission should outweigh the effect of lower mortality, which would otherwise tend to sustain populations with HIV. But what exactly is the impact of ART on transmission? At present, this is uncertain. Clinical trials indicate reductions of as much as 96 per cent, but experience on the ground has been less impressive, with transmission rates reported to be falling by about 35 per cent. Therefore, as a compromise position, prevalence projections are based on an assumption that ART achieves a 70 per cent decrease in transmission rates. It should be clear that actual outcomes may vary considerably from those being projected.<sup>3</sup> The emergence and transmission of drug-resistant HIV may alter future estimates, but these future developments are uncertain and do not play a role in the current analysis.

To translate the population estimates provided by UNAIDS into those for national labour forces, each population was restricted to those aged from 16–65, and concurrent or expected labour force participation rates for women and men, derived from ILO (2016a), were applied. This approach assumes labour force participation is not itself a consequence of HIV and AIDS status, which is surely false. It likely overstates the proportion of the labour force living with HIV and especially those experiencing the symptoms of AIDS. Nevertheless, without any data that sheds light on the relationship between labour force participation and HIV and AIDS status, it was not possible to perform an adjustment. This bias of unknown magnitude should be kept in mind in the analyses that follow. By labour force participation, we refer to the ILO definition, which includes both individuals engaged in the production of goods and services (falling under the System of National Accounts) and those actively seeking such work (ILO, 2016a).

One further caveat: the 2016 ILO publication being used reports the labour force estimates and projections (LFEPs) of 2015. These were the most recent data source at the time the analysis was conducted.

The general approach employed was to combine epidemiological and economic/social data at the country level to calculate impacts, which were then summed to arrive at estimates for countries by region, income class, identification by UNAIDS as Fast Track countries, and globally. All such multi-country groupings are treated, quantitatively, as sums of their member countries for which national estimates are available. Regional or other grouped averages and totals are not computed directly,

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3. These estimates are based on communication with experts from UNAIDS.

so if some member countries are outside this study they are excluded from these higher-level aggregates.<sup>4</sup> The Fast Track designation is applied to countries that are viewed as having a particularly significant role in efforts against HIV and AIDS. This can be because they have a high prevalence rate, are important demographically and geoeconomically, or are experiencing a combination of humanitarian emergencies that complicates and heightens the urgency of public health activism. Such countries are given priority in UNAIDS programming and support.

The economic and social consequences of the labour market effects attributable to HIV and AIDS – lost wages due to partial inability to work, the amount of care work required of households, the burden on children in these households, and the potential impacts on education – drew on existing empirical research. There were three criteria for selecting studies: they had to rely on survey-based data collection with appropriate sampling; their results had to correspond to the empirical relationships needed in this report; and their analytical methods had to be sufficient to control for potentially confounding factors. All such studies were identified and employed; no study was included or excluded based on the content of its findings. Since these studies offered a range of results, they were summarized in low, medium and high estimates. The medium estimate was at or near the midpoint of reported findings; the other two were near but not at the extreme end of the reported range. Thresholds for these estimation levels were frequently adjusted to accommodate clustering.

Later the methodologies specific to each of the impact types are discussed. Before turning directly to the impacts, however, the methods used to translate epidemiological data into estimates for the numbers of workers either fully or partially unable to work due to effects of AIDS will be discussed.

### **Fully unable to work**

As mentioned above, the calculations were restricted to that portion of the labour force that was living with HIV but not receiving ART. This population was disaggregated according to CD4 counts: under 100, 100–199 and 200 and above. Based on the advice of experts within UNAIDS, the baseline estimate was that 50 per cent of those with counts below 100 would be fully unable to work, but 25 per cent and 75 per cent proportions were used for sensitivity analysis.<sup>5</sup>

### **Partially unable to work**

Following expert advice, the baseline assumption adopted was that half of all those with CD4 counts below 200 would be either fully or partially unable to work; the estimate for partial inability was 50 per cent of those with CD4 counts from 100–199. Again, 25 per cent and 75 per cent were used for sensitivity purposes. For both groups, calculations were performed for men and women separately and together.

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4. The lists of countries included in each group for the purposes of this study are given in the appendix.

5. Calculations employing 25 per cent and 75 per cent are presented in the appendix.

With mortality given directly by the epidemiological database, and full and partial inability to work derived from CD4 counts, five social and economic impacts were constructed as follows:

**(a) Lost earnings due to removal from the labour force**

The starting point for the earnings calculation is the ILO Global Wage Report (GWR), which can be consulted for the criteria and data sources on which its figures are based (ILO, 2016b). The GWR database comprises 97 countries; all but one were used in this report, and they are listed in the appendix. Aside from incomplete coverage, another consideration is that the years for which GWR provides wage data do not necessarily correspond to the estimation years of this report (2005, 2010, 2015). Reported wages are typically taken from labour force surveys undertaken by the national statistics offices of the participating countries. For this reason, the GWR does not include any forecast data, and for the 2020 estimates, these forecasts have been developed separately in the context of the preparation of this report. Thus, there were three gaps in wage data to address: only partial country participation in the GWR; wage data for only some of the study years; and forecasts to 2020.

**The procedure used was as follows:**

(1) For countries for which the data are available, 2005 average wages in local currency units were used, converting to 2010 Purchasing Power Parity (PPP) dollars using the weights provided in the IMF World Economic Outlook (WEO) database and the US Bureau of Economic Statistics series on US GDP deflators.

(2) For countries for which the data are available, 2010 average wages in local currency units were used, converted to PPP ‘international dollars’. PPP exchange rates express local currency in terms of the number of US dollars that would purchase an equivalent basket of goods. The specific estimate of PPP we employed is performed by the World Bank.

(3) For countries for which the GWR provides average wages for 2010 but not 2005, the WEO database was used to calculate the ratio of 2005 to 2010 GDP per capita in constant PPP and applied this ratio to 2010 average wages. The same method was used to estimate 2015 wages for countries reporting 2010 but not 2015 wage data.

(4) For countries not included in the GWR database, a statistical model was fitted to impute their average 2010 wages from wage data from countries for which they were available. The fitted formula is:

$$\ln(W) = 1.808 + 0.819 \ln(\text{GDP}/N) - 0.013 (\text{OIL}) + 0.511 \text{AES} - 0.194 \text{AP}$$

where  $\ln(W)$  is the natural logarithm of the average wage,  $\ln(\text{GDP}/N)$  is the natural logarithm of per capita income, OIL is the share of oil rents in national income – all three for 2010 – AES is whether a country is in Africa–Eastern and Southern region (equalling 1 if true, 0 if not), and AP is whether a country is in the Asia Pacific



region (again 1 if true, otherwise 0). Logarithms are used because they measure in terms of percentage changes rather than absolute levels, and wage-related data tend to obey patterns in these terms. The details for this and other imputation procedures can be found in the appendix.

(5) To obtain wages for non-GWR countries for 2005, 2015 and 2020, the ratio of 2010 GDP per capita to the corresponding amounts was calculated for those three years and applied to the imputed 2010 wage, where these per capita GDP estimates (or in the case of 2020, projections) were taken from the WEO database.

### **(b) Lost earnings due to reduced productivity of those who remain in the labour force**

The number of workers estimated to suffer diminished productivity was derived from the epidemiological data and projections, as described above. Total earnings were estimated in the manner indicated above. What remains to be determined is the proportion of these earnings that might be lost; in other words, the extent of productivity decline.

Several studies were consulted that incorporated measurements of productivity loss, many of them in order to assess the benefits of ART, where workers with advanced AIDS symptoms are compared with those whose symptoms have been arrested through treatment. Table 1 summarizes these results:

**Table 1. Summary of studies with evidence of productivity losses due to AIDS**

Study	Region	Estimated productivity loss
d'Adda et al. (2009)	Rural Kenya	1.5 days per week
Larson et al. (2008)	Kenya tea estates	64% of work hours compared with those on ART
Muirhead et al. (2006)	South Africa	5.3 days per month compared with those on ART
Rosen et al. (2008)	South Africa	Men's work days reduced 54%, women's 64%, compared with those on ART
Sgombich et al. (2006)	Chile	Absenteeism 10% higher, compared with those on ART
Thirumurthy et al. (2008)	Tamil Nadu, India	32% reduced hours per week, 37% reduced earnings, compared with those on ART
Habyarimana et al. (2010)	Mining in Botswana	20% increased absenteeism per month, compared with those on ART
Goldstein et al. (2010)	Rural Kenya	28% fewer work hours per week, compared with those on ART
Wyss et al. (2004)	Chad	Absenteeism 55% higher
Farahani et al. (2013)	Botswana	Absenteeism 5.2 (men) and 3.3 (women) days higher; earnings 38% (men) and 43% (women) less
Thirumurthy et al. (2011)	Tamil Nadu, India	33% less income, 10.9 fewer hours worked per week, compared with those on ART

When possible, the results of these studies were converted to percentage reductions in work or losses in earnings relative to either non-AIDS cases or AIDS cases undergoing ART; in some instances, the information reported was not sufficient for this. Based on this range of outcomes, three alternative average productivity losses for individuals whose productivity is impaired but who remain in the labour force are proposed: 20 per cent (low), 35 per cent (medium) and 55 per cent (high).

The final estimate of earnings losses derives from the number of individuals with impaired productivity, their average earnings, and the average loss of productivity.

### **(c) The burden of care work falling on households with AIDS cases**

For this and the following two impacts, the global estimate is restricted to countries that are either low- or middle-income and located outside Europe, since the evidence for household burdens is drawn solely from such countries, and it is reasonable to suppose they would play a much smaller role in societies with more institutionalized approaches to providing care. It will be seen that most of the evidence – all of it for the burden of care – comes from case studies in sub-Saharan Africa. There is no evidence, either supporting or calling into question the supposition, that these cases can generalize to developing countries in other regions. However, it may be warranted to do so, since the social factors that give rise to these impacts exist throughout the developing world. The uncertainty in their size across different regions is likely to be reflected in the multiple scenarios estimated for each impact, generating a range of potential outcomes.

Despite data limitations, it is important to generate estimates of the care burden. An important literature has emerged that, primarily in theoretical and qualitative terms, argues for the economic and social importance of unpaid care, which often escapes measurement and is insufficiently heeded in policy (Stewart, 2007; Lewis and Giullari, 2005; Picchio, 2003; Nussbaum, 2001). Researchers and practitioners have also been aware for many years that this is a crucial aspect of the impact of HIV and AIDS, in particular, on our societies, and that failing to recognize it would be to miss a significant part of the gender dimension of the epidemic (UNESCO, 2010; Urdang, 2006; Mehta and Gupta, 2005; Ogden et al., 2004). For this reason, it was considered necessary to proceed despite limited quantitative work to draw on.

It is assumed that care work is required only for individuals who are either partially or fully unable to work, and that the amount of this labour depends on the number of affected households, not the number of AIDS cases. A household with two such cases is treated as the equivalent of a household with only one – a simplification, but preferable to the alternative assumption that the first household supplies twice the care work of the second. The second step is to estimate the ratio of AIDS cases to households at the country level. For this purpose, the Demographic and Health Surveys (DHS) incorporating an HIV and AIDS module, implemented in 32 countries, has been used. One of these countries had to be eliminated due to unreliable data – it had more AIDS-affected households than AIDS cases – and in

others, where more than one survey was administered, only the most recent was used. Thus, there is a case-to-household ratios for 31 countries.

For imputation purposes, a formula was fitted that represents the relationship between the case-to-house ratio and other available variables:

$$C/HH = 1.09 + .008 \text{ PREV} + 0.745 \text{ AP}$$

where C/HH is the case-to-household ratio, PREV is the HIV prevalence rate in the country and AP is a variable indicating whether the country is in the Asia Pacific region (1 if yes, 0 if false). PREV has the expected sign, since greater prevalence should result in more households that have more than one AIDS case. The coefficient on AP is rather large (and strongly significant), and may indicate that AIDS cases tend to be more socially concentrated in that region. Again, details can be found in the appendix.

The final step is to propose an average number of hours per week that other household members devote to care work when there is at least one AIDS sufferer present. For this three studies were relied on, as summarized in table 2. The scarcity of such research probably reflects a lack of attention to issues of care work generally (Folbre, 2006; Budlender and Moussie, 2013; Razavi, 2007).

**Table 2. Summary of studies with evidence on care work in AIDS-affected households**

Study	Region	Results
Hilhorst et al. (2006)	Benue State, Nigeria	Extra hours of care work per week, AIDS-affected households minus controls: adult men – 8, adult women – 8, boys – 6, girls – 6
Bachmann and Booysen (2003)	Free State Province, South Africa	Mean hours per day of care work: 5
Wyss et al. (2004)	Chad	7.9 days per month extra care work, relative to controls

From this the three measures of weekly care work hours per affected household were derived: 15 (low), 25 (medium) and 35 (high). The aggregate hours were divided by 2,000 to get worker-year equivalents.

#### **(d) Extra hours of household chores performed by children in AIDS-affected households**

Here AIDS-affected households are defined as those in which there had been a death due to AIDS symptoms in the current year or in which there was a household member partially or fully unable to work. By restricting mortality impacts to those taking place within the ‘snapshot’ year, the results are biased in a conservative direction. The case-to-household ratio was determined as described above.

For this impact, a measure of the number of children per affected household was needed. This was reported in the DHS data for 31 countries, and a formula was fitted for imputing this ratio to the remaining countries:

$$CH/HH = -0.249 + 6.143 CH/POP - 0.253 AES$$

where CH/HH is the average number of children per AIDS-affected household, CH/POP is the proportion of a country's population aged 15 or less, and AES records whether the country is in the Africa–Eastern and Southern region. The negative coefficient on AES should be interpreted in the context of the relatively large coefficient on CH/POP: the age structure of AES countries over-predicts the number of children per household likely to be found in households affected by AIDS. More detail can be found in the appendix.

Only two studies were identified that offered evidence on the amount of chore hours performed by children in these households; details are given in table 3.

**Table 3: Summary of studies with evidence on additional chore hours performed by children in AIDS-affected households**

Study	Region	Results
d'Adda et al. (2009)	Rural Kenya	2.5 (boys) and 4.0 (girls) more chore hours per week, compared with households where ART is being dispensed
Yu et al. (2013)	China	AIDS orphans perform 0.46 more chore hours per day compared with controls

Based on this admittedly limited body of evidence, three estimates of additional weekly chore hours are proposed: 2.5 (low), 3.5 (medium) and 4 (high). As described in the following section, aggregate hours were divided by the ILO child labour threshold of 21 to arrive at child labour equivalents.

#### **(e) Children whose education is impaired due to living in AIDS-affected households**

For this final impact, the relevant households are defined as in the previous impact and the same methods were used to arrive at ratios of cases to households, and children to households. It remained to find evidence of education impairments due to the stresses associated with the presence of AIDS or a recent death caused by the disease.

In table 4 the evidence for this impact is summarized.

**Table 4: Summary of studies with evidence on the risk of impaired education among children in AIDS-affected households**

Study	Region	Results
Zivin et al. (2009)	Rural Kenya	17% reduction in school attendance relative to ART
Timaeus and Boler (2007)	South Africa	0.8 fewer years of schooling if father died of AIDS, no effect if mother died
Fortson (2011)	Sub-Saharan Africa	regional impact: 10% higher HIV prevalence associated with 0.5 fewer years of schooling
Evans and Miguel (2007)	Sub-Saharan Africa	Reduced school attendance prior to mother's death from AIDS – 6.5%; subsequent to death – 9.3%; no reduction related to father's death
Floyd et al. (2007)	Karonga district, Malawi	No evidence of negative education impact for primary school, some indication of an effect for secondary
Case and Ardington (2006)	South Africa	Mother's death from AIDS symptoms reduces level of grade attainment by 0.25 years
Goldstein et al. (2010)	Rural Kenya	17% decline in school attendance, compared with households where ART is dispensed
Ainsworth and Filmer (2002)	28 developing countries	Heterogeneous effects of being orphaned on education, no central tendency

It would appear to be prudent to set a low estimate of education effects at zero; based on the above evidence the medium effect has been set at 5 per cent and the high effect at 10 per cent. Consistent with the unsettled character of this literature, only numbers of children who may experience impairments are being proposed and not specific estimates of the degree of impairment.

To summarize, essential social and economic data for low- and middle-income countries are not complete, and the problem is exacerbated for the sub-population living with HIV. Available data have been used where possible and extrapolation from them have been made to perform imputations for countries with missing observations. The greatest uncertainty, however, is in the impacts of work impairment on workers' activities and the activities of others in their households. Each of the impacts examined has attracted at least a few studies (and in some cases, many) based on one-time data-collection efforts. Recognizing the variable conditions across the countries in which these studies were performed, a range of possible outcomes have been considered rather than one overall average. This may be less satisfying in the message it sends but more accurately reflects the imperfect state of the knowledge.

### III. HIV and AIDS and the labour force

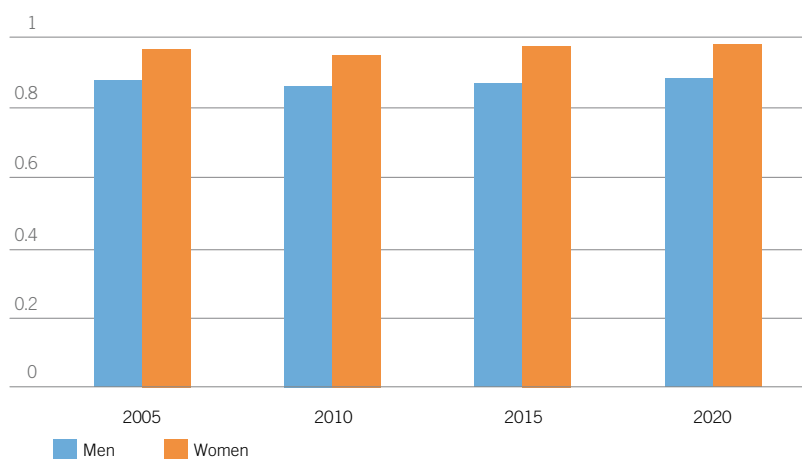
#### (a) Prevalence

The great percentage increases in HIV prevalence are well behind us now but the total, as well as the rate, continues to rise slowly for the global labour force, as seen in figures 1 and 2:

**Figure 1. Number of people living with HIV in the global labour force by sex, 2005–2020, in millions**



**Figure 2. Global HIV labour force prevalence by sex, 2005–2020**



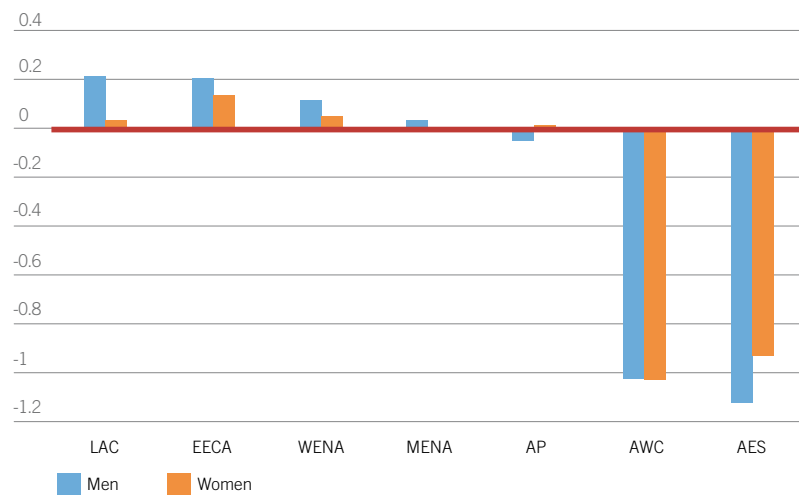
Ratios of estimated individuals in the labour force living with HIV to labour force totals at the global level.  
Source: ILO calculations based on UNAIDS 2016 estimates.

More than 22 million workers were living with HIV in 2005; that number is projected to approach 30 million in 2020. This represents an annual increase of 1 per cent over the first five-year period and 2.4 per cent over the second and third. By itself, this is not a cause for concern, so long as ART is extended to meet the needs of this expanding population, however, some portion of this need will go unfilled.

Notably, while men account for most workers living with HIV, the prevalence rate among women is higher; this is due to higher labour force participation rates for men. To the extent that there is an acceleration in the number of people living with HIV, especially over the period from 2015 to 2020, it is due not to an increase in the number of new infections but to the greater use and effectiveness of ART: many who would have otherwise died will survive over these years, adding to the number living with HIV. As explained in the previous section, projections of the numbers of people living with HIV assume ART will not only save lives but also substantially reduce transmission rates.

Behind these general trends lie interesting patterns. Especially because of the effect of ART—itsself dependent on testing—on transmission, progress in limiting the spread of the disease is uneven for economic and geographic factors. Figure 3 shows the breakdown by sex and regions in the change in labour force HIV prevalence rates between 2005–2020, calculated as the simple difference between the beginning and ending rate.

**Figure 3. Changes in HIV prevalence by region and sex, 2005–2020**



The HIV prevalence rate estimated for 2020 minus the rate in 2005.

Source: ILO calculations based on UNAIDS 2016 estimates.

### Here and in all subsequent tables and figures, the regional codes are:

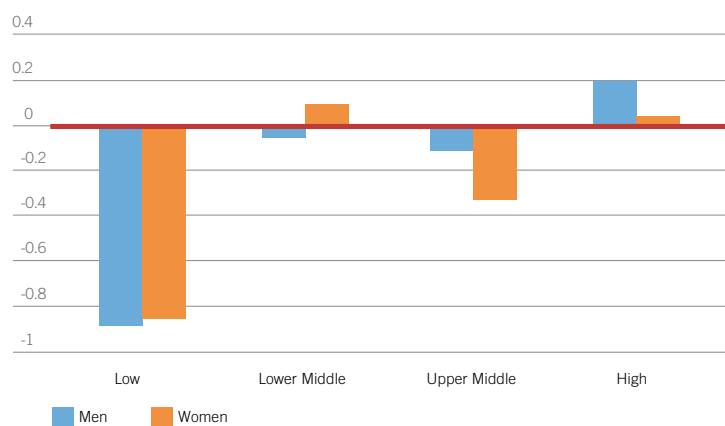
AES: Africa – Eastern and Southern  
 AP: Asia and Pacific  
 AWC: Africa – West and Central  
 EECA: Eastern Europe and Central Asia  
 LAC: Latin America and the Caribbean  
 MENA: Middle East and North Africa  
 WENA: Western and Central Europe and North America

Note that these are the regional groupings employed by UNAIDS, whose data has been utilized for this report; the ILO has a different set of regional categories, and a full listing of the countries comprising each region can be found in the appendix.

Note the large drop in sub-Saharan Africa, where reduced transmission to women is especially significant. On the other hand, the disturbing increase in prevalence, albeit from a much lower base, in Eastern Europe and Central Asia and a few other regions, is tilted towards men.

A different way to view changes in prevalence is to look at countries grouped according to income. Here and in subsequent figures and tables the four World Bank categories are used – low, lower-middle, upper-middle and high – with countries sorted according to GDP per capita (a full listing of countries belonging to each income group can be found in the appendix). Figure 4 demonstrates that the concentration of HIV in low-income countries is gradually abating over time. This is driven not only by substantially reduced prevalence in these countries, but also by mixed trends at other income levels. Some countries are experiencing increases, which accounts for unfavourable trends, especially among the lower-middle and high-income groups; also, changes in the relative concentration of the disease by sex follow no overall pattern.<sup>6</sup>

**Figure 4. Change in HIV prevalence by income group and sex, 2005–2020**



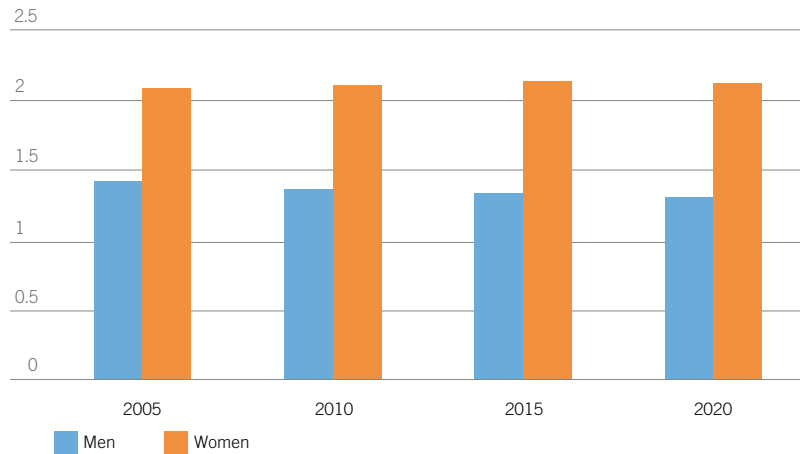
The HIV prevalence rate estimated for 2020 minus the rate in 2005.

Source: ILO calculations based on UNAIDS 2016 estimates.

6. For further detail on country-level estimates, see table A-1 in the appendix.



**Figure 5. Weighted HIV labour force prevalence in UNAIDS Fast Track countries, 2005–2020**



Ratios of the estimated number of individuals in the labour force living with HIV to labour force totals for UNAIDS Fast Track countries.

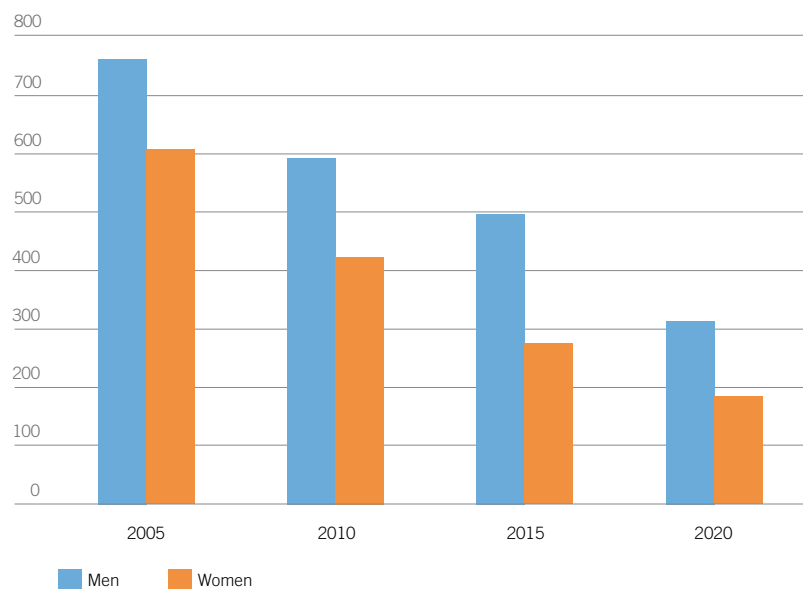
Source: ILO calculations based on UNAIDS 2016 estimates.

Women workers are more likely than men to be living with HIV, and the gap has been widening since 2010, reflecting their rising prevalence rate relative to the more stable rate for men.

### **(b) Mortality**

The most positive impact of ART has been the declining mortality associated with AIDS. Figure 6 shows total labour force deaths at the global level by sex.

**Figure 6. Global labour force deaths attributable to AIDS by sex, 2005 – 2020, in thousands**

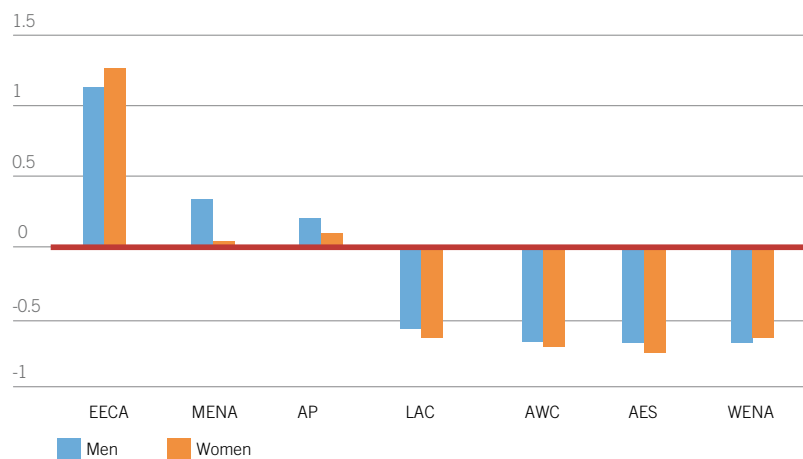


AIDS-related mortality for the global population aged 15 and over, multiplied by the separate labour force participation rates for men and women.

Source: ILO calculations based on UNAIDS 2016 estimates.

This decline in mortality is evident across most regions, as figure 7 demonstrates.

**Figure 7. Per cent change in labour force deaths attributable to AIDS by region and sex, 2005–2020**



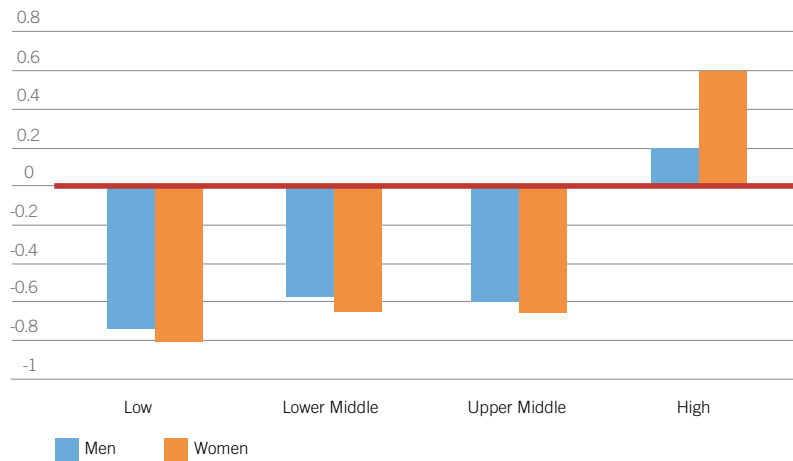
The estimated number of labour force deaths in 2020, minus those in 2005 as a proportion of those in 2005.

Source: ILO calculations based on UNAIDS 2016 estimates.

When considering these numbers, it should be noted that deaths in the Eastern European and Central Asian countries are increasing from a base of just under 30,000 in 2005, the second lowest regional total in that year (ahead of only the Middle East and North Africa).

Reductions in mortality are visible across all income levels except the highest, as figure 8 demonstrates. The disturbing trend for the high-income group is driven primarily by the increase among some high-income countries in the Eastern Europe and Central Asia region.

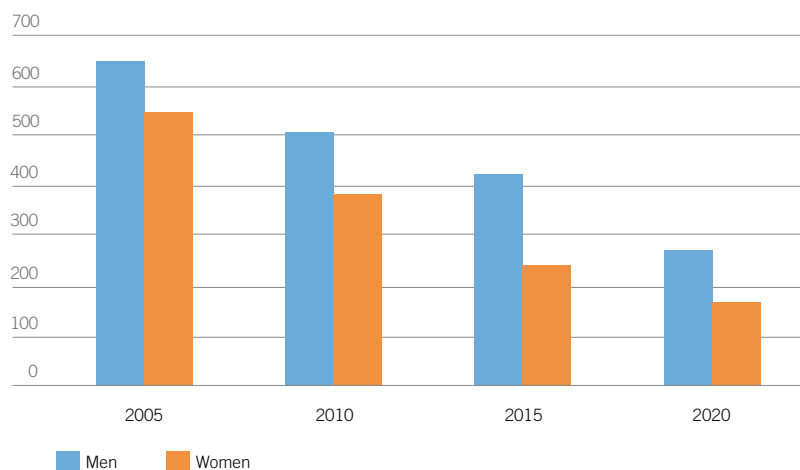
**Figure 8. Per cent change in labour force deaths attributable to AIDS by income group and sex, 2005–2020**



The estimated number of labour force deaths attributable to AIDS in 2020, minus those in 2005 as a proportion of those in 2005.

Source: ILO calculations based on UNAIDS 2016 estimates.

**Figure 9. Labour force deaths attributable to AIDS in UNAIDS Fast Track countries, 2005–2020, by sex, in thousands**

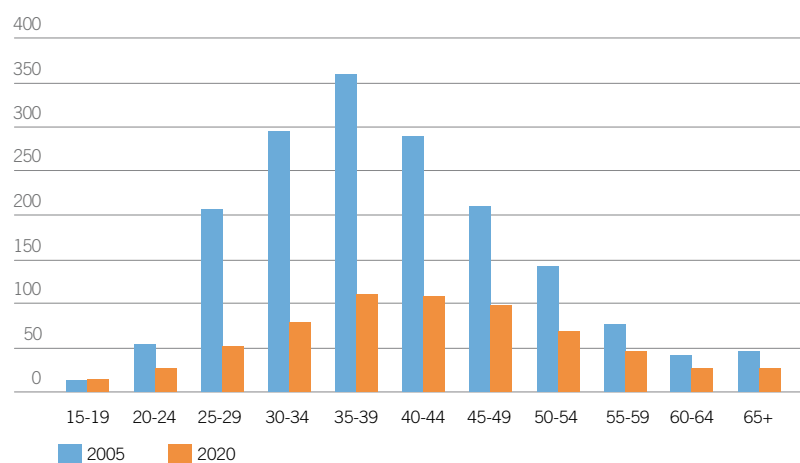


The estimated number of labour force deaths in 35 UNAIDS Fast Track countries, 2005–2020.

Source: ILO calculations based on UNAIDS 2016 estimates.

Finally, it is informative to examine labour force deaths due to AIDS as a function of age, as shown in figure 10.

**Figure 10. Labour force deaths attributable to AIDS, ages 15 and older, by age segment, 2005 and 2020, in thousands**



Global total of labour force deaths attributable to AIDS in 11 age categories.

Source: ILO calculations based on UNAIDS 2016 estimates.

As can be seen, AIDS strikes down workers in the prime of life, when they are at the highest levels of productivity for themselves, their families and society. Peak mortality is in the late 30s, while workers are still vigorous but have also acquired skills and experience. Notably, the age distribution of deaths projected for 2020 is not only much lower than for 2005 but also somewhat flatter, with less concentration in the 25–45 age group.

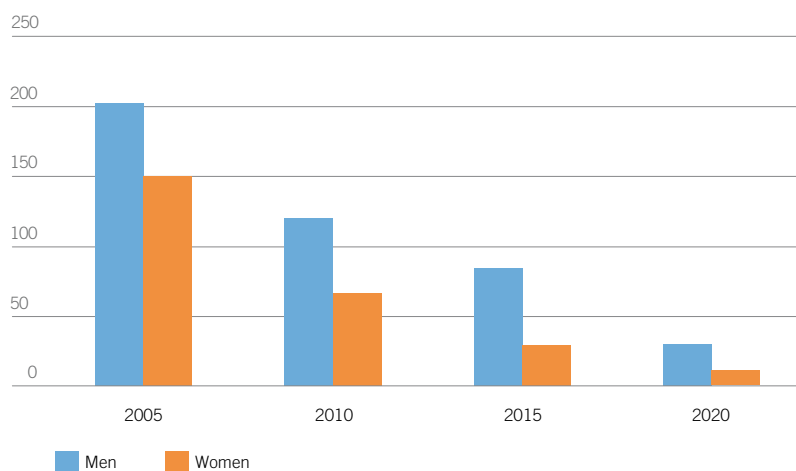
While the rapid decline in the number of deaths attributable to AIDS is a major achievement, the numbers, even in the projection to 2020, remain far too high. With the advances already made in ART medications, all such deaths are essentially avoidable. The low columns for 2020 in figures 6, 9 and 10 still translate into hundreds of thousands of personal and community tragedies that need not occur.

### (c) Withdrawal from the labour force

As described in the previous section, the methodology assumes that a fixed proportion of those with the lowest CD4 counts (beneath 100) will be fully unable to work. Here estimates are presented based on the premise that this is 50 per cent of the relevant population; in the appendix, the consequences of 25 per cent and 75 per cent are examined. For any given population, of course, changing this percentage alters only the magnitude of the estimates, not their trends over the 15-year period.

Figure 11 presents these estimates at a global level, broken down by sex; the decline is comparable with that for mortality, and for the same reason, the increased availability of ART.

**Figure 11. Global labour force fully unable to work due to AIDS by sex, 2005–2020, in thousands**



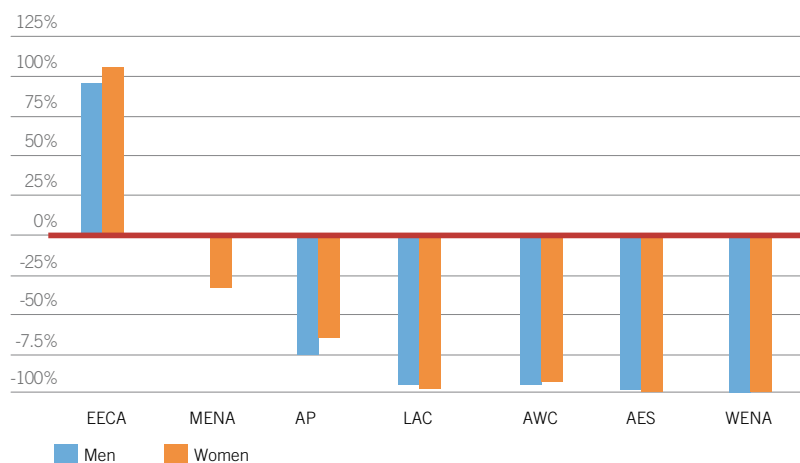
Individuals in the global workforce fully unable to work due to AIDS (estimate), using baseline assumption of 50 per cent of those with CD4 counts <100. 2005, 2010 and 2015 are derived from estimates; 2020 are projections.

Source: ILO calculations based on UNAIDS 2016 estimates.

This is, by any measure, a substantial reduction and it is distributed across most national groupings. The predicted change from 2015 to 2020 is particularly dramatic, from 113 million to just over 40 million individuals.

Figure 12 shows these data by geographic region; the global trend is reproduced in all but one region. In four of them, labour force withdrawal is virtually eliminated, but it expands rapidly (from a relatively small base) in Eastern Europe and Central Asia.

**Figure 12. Per cent reduction in labour force fully unable to work due to AIDS, 2005–2020, by region and sex**

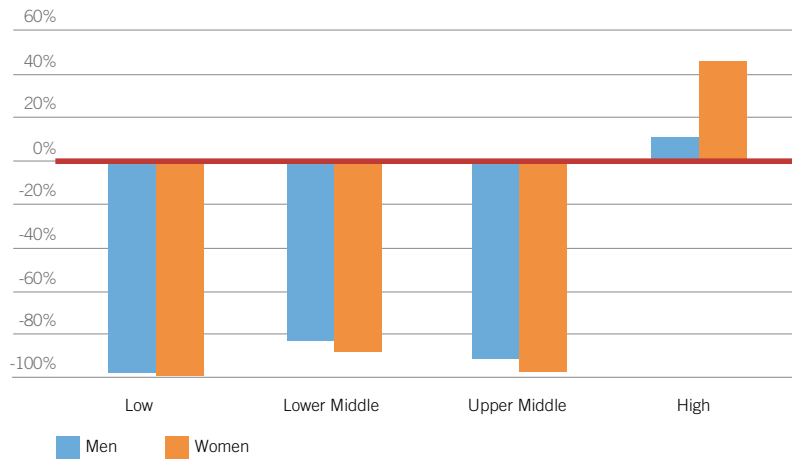


The estimated number of individuals fully unable to work due to AIDS in 2020, minus those fully unable to work in 2005, as a proportion of those unable to work in 2005.

Source: ILO calculations based on UNAIDS 2016 estimates.

Full inability to work due to AIDS symptoms – equivalent to withdrawal from the labour force – displays the same pattern as mortality, where increases in Eastern Europe and Central Asia are responsible for the 2005–2020 increase among the high-income countries.

**Figure 13. Per cent reduction in labour force fully unable to work due to AIDS, 2005–2020, by income group and sex**



The estimated number of individuals fully unable to work due to AIDS in 2020, minus those fully unable to work in 2005, as a proportion of those unable to work in 2005.

Source: ILO calculations based on UNAIDS 2016 estimates.

Finally, UNAIDS Fast Track countries display the same downward trend in full inability to work as that for mortality.

**Figure 14. Labour force in UNAIDS Fast Track countries fully unable to work due to AIDS by sex, 2005–2020, in thousands**



The estimated number of individuals fully unable to work due to AIDS in 35 UNAIDS Fast Track countries, 2005–2020.

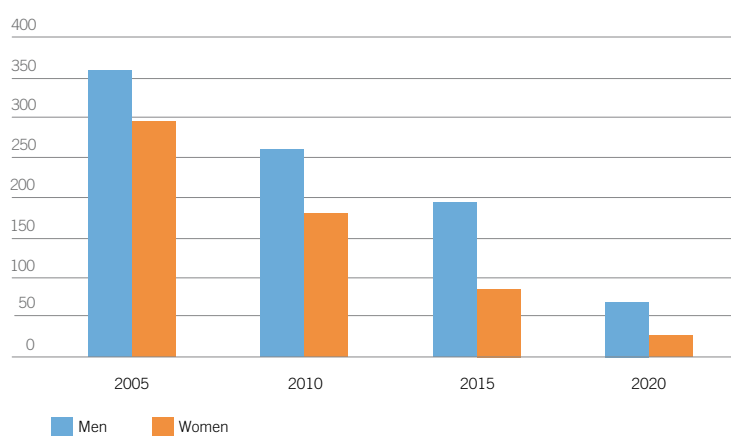
Source: ILO calculations based on UNAIDS 2016 estimates.

#### (d) Partial inability to work

The survey of the health status of the global workforce concludes by considering workers whose symptoms are not so severe that they must forgo work entirely but whose productivity is nonetheless diminished. As discussed in the methodology section, this is calculated assuming half of all individuals with CD4 counts below 200 are either partially or fully unable to work. The effects of altering this fraction are also considered – lowering it to 25 per cent or raising it to 75 per cent – in the appendix.

The global trends are comparable with those for mortality and full inability to work.

**Figure 15. Global labour force partial inability to work due to AIDS, 2005–2020, by sex, in thousands**



Individuals in the global workforce partially unable to work due to AIDS (estimate), using baseline assumption of 50 per cent of those with CD4 counts 100–199. 2005, 2010 and 2015 are derived from estimates; 2020 are projections.

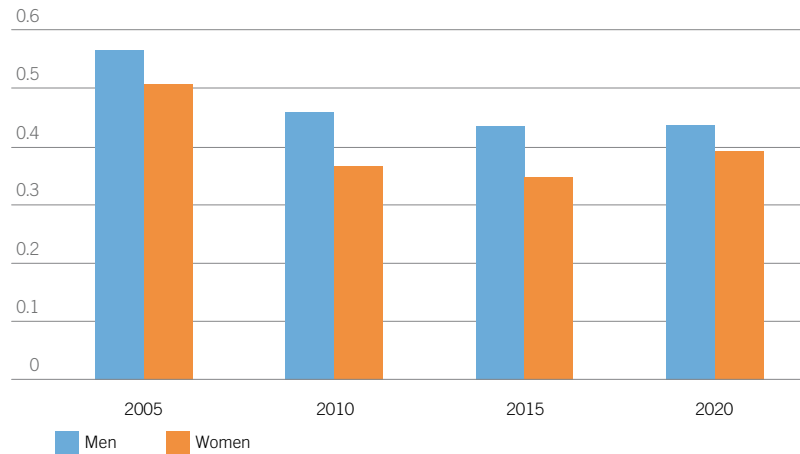
Source: ILO calculations based on UNAIDS 2016 estimates.

The decline is dramatic for both men and women throughout the period. Although ART is almost entirely effective at preventing AIDS disability, nearly 100,000 individuals are expected to suffer diminished functioning due to these symptoms in 2020.

It is interesting to compare full and partial inability to work, as shown in figure 16.



**Figure 16. Ratio of global labour force fully to partially unable to work due to AIDS, 2005–2020, by sex**



The estimated number of individuals fully unable to work as a proportion of those estimated to be partially unable to work, globally.

Source: ILO calculations based on UNAIDS 2016 estimates.

The uptake of ART has the effect of reducing the fraction of workers severely disabled by AIDS. This progress is then projected to stall, but the absolute numbers on which these proportions are based will continue to fall significantly, and the population of those not on ART who should be receiving it will look different in 2020 than it has in the past. Partial inability to work by region, income group and Fast Track status is not set out in this section of the report, but the numbers can be found in the appendix.

As has been seen, the toll taken by AIDS mortality and morbidity has declined substantially from its acute phase at the beginning of the millennium and is on a path to becoming an infrequent event. This is true in most but not all regions, for countries at different levels of economic development, and for both men and women. There has been concerted effort by the international community to work in partnership with local public health practitioners in much of sub-Saharan Africa, where the ravages of HIV and AIDS were felt most intensively but where countries have experienced great declines in all measures of burden. Nevertheless, as seen in the following section, there is a considerable range of improvement across countries, with some slower to extend ART to those for whom it is literally a matter of life and death. Pockets of increased prevalence, not yet matched by expansion of ART, also appear in countries with less history of HIV. There is a strong case to increase the pace and coverage of efforts against this disease.

## ***IV. Economic and social impacts of HIV and AIDS on the global labour force***

Before setting forth estimates of the economic and social impacts of the death and disability toll of AIDS, it is pertinent to ask: why consider such impacts at all? Surely the public health imperative of maximizing prevention and treatment is self-evident; what value is there in investigating subsequent effects, particularly the economic losses?

Health and well-being are clearly ends in themselves, and elevate the response to HIV and AIDS to a matter of fundamental human rights. Nevertheless, identifying the economic dimension of the costs of AIDS and its related social impacts serves several purposes:

- It helps practitioners and advocates distinguish between the visible budgetary costs of prevention and treatment programmes and their true net costs, after accounting for the predictable costs of disability and premature death these programmes avert. Public health investments generally appear more expensive than they are, once the costs of inaction are tallied as well, and this is particularly true for HIV and AIDS.
- It uncovers costs that might otherwise be hidden from view, particularly those that fall on households in countries where medical care is less institutionalized. As will be seen, the families of workers living with AIDS bear a substantial burden and this has economic consequences even if they escape the notice of official record-keeping.
- It demonstrates that action against HIV and AIDS is not only a matter of public health but also of economic and social development. Funds are always scarce but their allocation should not be viewed as a matter of health versus economic investment, since prevention and treatment address both. Reducing the toll of AIDS on the global workforce contributes to progress on a range of parallel goals, including poverty alleviation, social protection, universal education and decent work. This will become clear as the costs are examined more closely.

To try to understand the economic costs of HIV and AIDS, focus is given to the impacts on workers and their families. The previous section set the stage by demonstrating the magnitude of morbidity and mortality outcomes for workers at the global level; in this section, these health impacts are translated into economic and social impacts. Broadly speaking, two main channels will be considered through which these effects are felt: lost earnings and household burdens.

### **Lost earnings**

Earnings are lost either because workers are removed from the labour force due to death or such severe disability that work is no longer possible, or because, while they continue to work, their productivity has diminished. Different interpretations could be attached to such numbers, however. For instance, while earnings losses are sometimes treated as simple deductions from national income, this depends on two critical assumptions: that these earnings are an accurate measure of workers' productive contributions; and that there is no surplus of labour supply such that otherwise unemployed or underemployed workers are unavailable to replace the lost productivity. Both are questionable, particularly the second, and particularly in less developed countries, where a portion of the informal sector consists of workers eager to enter better paying and more productive formal work. But lost earnings could also be viewed in the context of the household, where they are unambiguously a measure of reduced living standards. While there are often possibilities for substitute labour, at the household level, these losses normally come with significant costs of their own, as is seen in the case of children. In this report, no single interpretation is advocated but earnings losses attributable to HIV and AIDS are contextualized by comparing them with financial requirements for health and social protection.

### **Household burdens**

When individuals suffer debility or premature death due to AIDS, there are measurable impacts on other members of their household. This is especially important to recognize in countries with less institutionalized health-care systems, whereby more of the care burden falls on household members, and in countries with less extensive social protection systems. In this report, three such impacts are examined: the time burden of direct care; the reliance on children to undertake expanded household chores, which beyond an appropriate threshold, constitutes a form of child labour; and the potential for disruption of children's education. Compared with earnings losses, these household costs tend to be hidden, and estimating their magnitude is an important objective of this report.

Before continuing, one potential source of confusion needs to be addressed. In the pages that follow, when examining lost earnings, the global totals will include every country for which both epidemiological and earnings data are available. The household burden analyses, however, will include only countries in the three lowest income categories located outside Europe. The reason for this is that the studies relied upon for impact estimates are based on evidence only from this subset of countries. Given the likelihood that more developed economies provide health care and social support services that reduce the burden on households, it was considered inappropriate to extrapolate developing-country estimates to them. Readers should bear in mind, therefore, that 'global' means different things for these two general kinds of impacts.

### **(a) Lost earnings due to removal from the labour force**

This calculation is based on data and projections for deaths and labour force withdrawals (full inability to work) due to AIDS, summarized in the previous section; recall that the baseline assumption is that half of those of working age with a CD4 count below 100 who are not on ART are fully unable to work (the changes to this assumption are considered in the appendix). To move from this to estimates of lost earnings requires two steps, one conceptual and the other empirical.

Conceptually, a relationship between the earnings of the subpopulation of individuals removed from the labour force and those of the labour force as a whole is proposed, since earnings data is not available specifically for the former group. Essentially, this is the same as asking whether workers with low CD4 counts are representative of the labour force as a whole or whether either lower- or higher-income workers are more likely to find themselves in this situation. The solution will be to assume they are representative and apply each country's average wage level to its most AIDS-affected workers. This choice has been made for the following reasons:

- No general relationship has been identified between the likelihood of HIV infection and economic status. This varies across countries and over time unsystematically.
- In developing countries, where many individuals living with HIV are either informally employed or engaged in subsistence production, it is conventional to value their productivity in accordance with the average earnings of those whose earnings are recorded.

Nevertheless, it is possible that this approach overestimates such earnings, particularly in the projections for 2020, insofar as ART uptake may be partly a function of economic class. There is no direct evidence for this, nor any basis for assigning a number to this bias, but in this report it is considered that the risk of overestimation due to this factor exceeds that of underestimation.

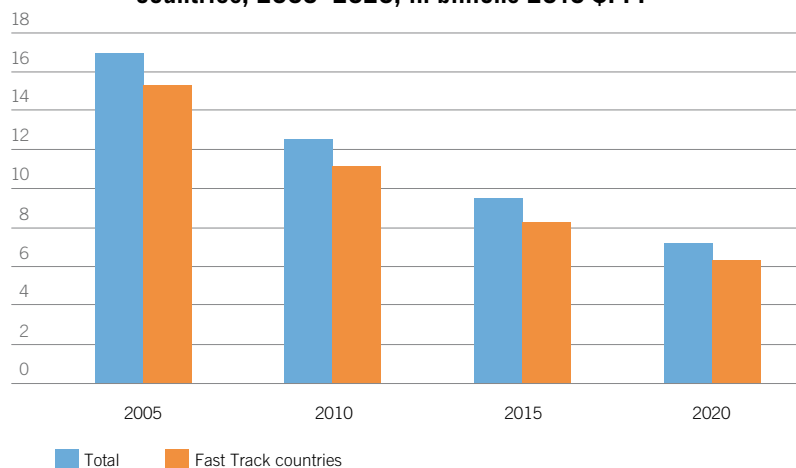
The chief empirical problem is that average earnings are not reported for all countries. For example, the ILO's Global Wage Report (GWR), which contains the most comprehensive database available, provides average earnings data for 2010 for only 97 countries. Even for many of the countries for which it has data, earnings are available only for years that do not correspond to the three milestones from 2005 to 2015. Some countries, for instance, report earnings data only for 2007 or 2008 and not for 2005 or 2010. Finally, there are no earnings projections corresponding to the epidemiological projections reported in the previous section: the GWR database does not predict earnings in 2020.

The solution to this set of problems is to employ imputation methods. The simplest is adjusting for unmeasured wage changes over time: the growth rate in GDP per capita over a given time duration is applied to the measured wage to estimate wage growth. So, if a country has an average wage of US\$ 10,000 in 2008, and if its GDP per capita increased by 2 per cent over the period 2008–2010, it is assigned a wage of \$10,200 in 2010. In such operations, an adjustment is made for changes in beginning and ending PPP dollars.

More complex is the problem of imputing wages to countries without any ILO-reported wages. As described earlier, a regression formula estimated from the GWR countries has been applied to the remaining ones. The predominant factor in this formula is the logarithm of GDP per capita, and it explains most of the variation in GWR wages.

Figure 17 summarizes the estimate of earnings losses attributable to death or full disability resulting from AIDS. It should be noted that a few countries are not included in the totals due to a lack of essential data. This means that the ‘global’ totals are understated for the true global aggregates, perhaps offsetting the opposite bias stemming from differential ART uptake across workers at different income levels.

**Figure 17. Lost earnings due to labour force deaths or withdrawals attributable to AIDS, globally and in UNAIDS Fast Track countries, 2005–2020, in billions 2010 \$PPP**



The global total of average earnings at the country level, multiplied by the corresponding estimates of the number of deaths and instances of full inability to work.

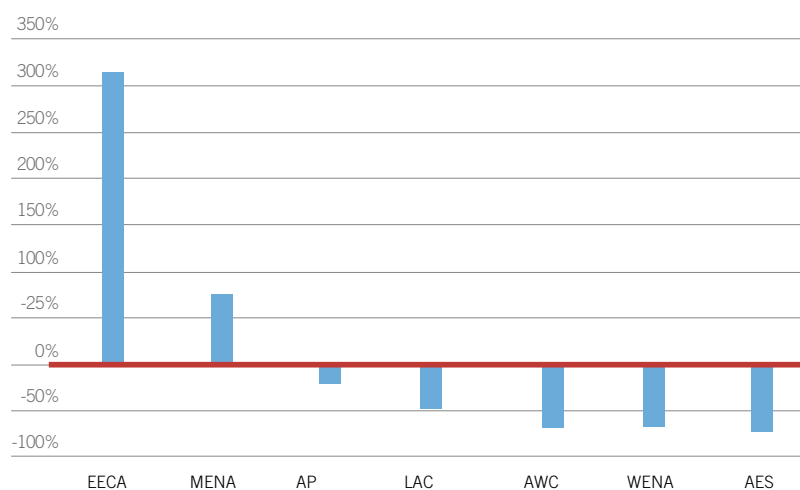
Sources: UNAIDS and ILO GWR databases, ILO calculations.

The effects of ART are seen throughout the study period, despite the modest shift to higher mortality and disability in higher income countries which was observed earlier. Of course, the figures for 2020 are projections, and it remains for countries to maintain these declines.

To gain a sense of the significance of these numbers, consider that for 2016, the most recent year for which data is available, the Global Fund to Fight AIDS, Tuberculosis and Malaria disbursed just under US\$4 billion in grants related to these three diseases (Global Fund, 2016). This is less than the economic losses to AIDS-affected households even in 2020, about two decades after the development of effective, low-cost treatment.

Figures 18 and 19 display the per cent changes in this impact over the 2005–2020 period, according to region and income group. As was seen in the epidemiological data, an increase in earnings losses in high-income members of the Eastern Europe and Central Asia region drives a corresponding increase in the high-income country group.

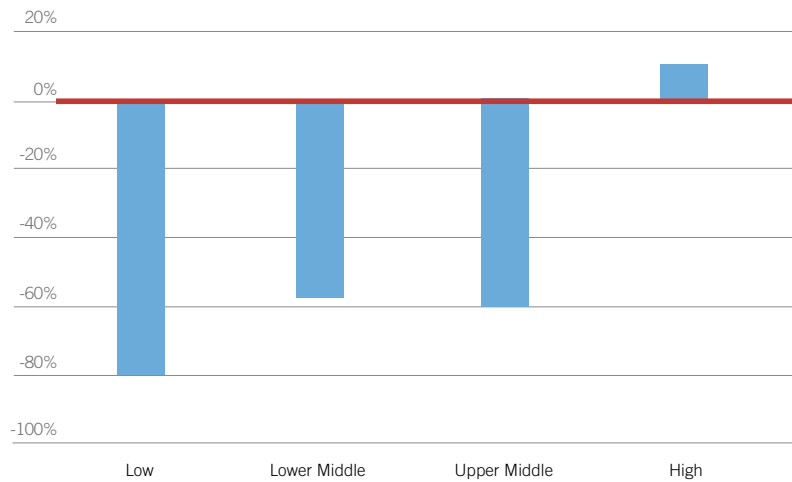
**Figure 18. Per cent change in income lost due to death or labour force withdrawal attributable to AIDS, 2005–2020, by region**



Estimated income lost due to death or full disability in 2020, minus the estimated income loss in 2005 as a proportion of the income loss in 2005.

Sources: UNAIDS and ILO GWR databases, ILO calculations.

**Figure 19. Per cent change in income lost due to death or labour force withdrawal attributable to AIDS, 2005–2020, by income group**



Estimated income lost due to death or full disability in 2020, minus the estimated income loss in 2005, as a proportion of the income loss in 2005.

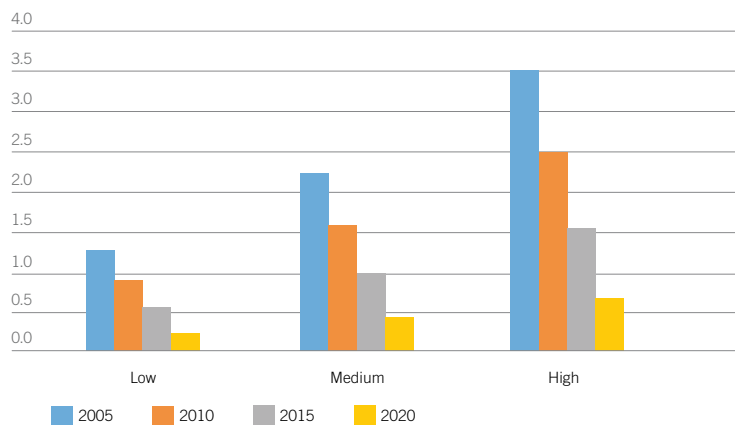
Sources: UNAIDS and ILO GWR databases, ILO calculations.

### **(b) Lost earnings due to reduced productivity of those who remain in the labour force**

In the previous section, the number of workers who, while remaining at work, would suffer reduced productivity due to the effects of AIDS was estimated. To convert this to monetary terms, the average earnings of these workers is needed – which is now available – as well as an indication of the extent to which productivity is likely to be reduced on average.

As discussed earlier, 11 studies were reviewed that quantified the productivity impacts of various levels of AIDS disability. The impacts ranged from about 10–60 per cent of pre-HIV or post-ART levels, and so low, medium and high productivity losses were established at 20 per cent, 35 per cent and 55 per cent respectively. Figure 20 presents the results at the global level for these three loss scenarios, and figure 21 does the same for the UNAIDS Fast Track countries.

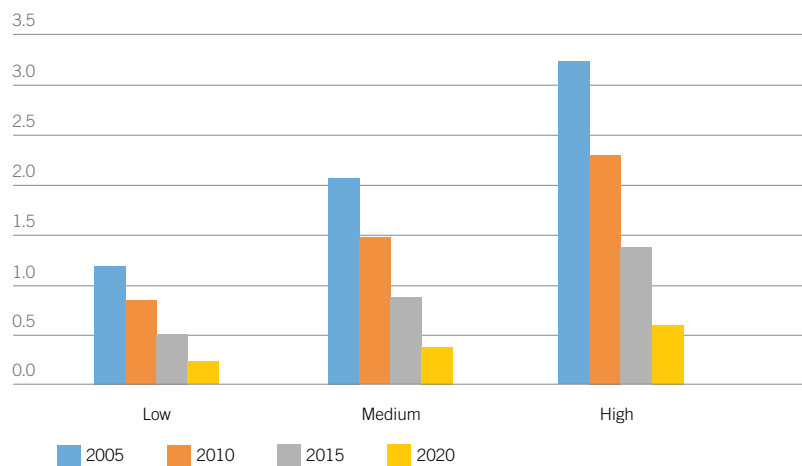
**Figure 20. Global lost earnings due to diminished productivity attributable to AIDS, 2005–2020, under three earnings loss scenarios, in billions 2010 \$PPP**



Global total of average earnings at the country level, multiplied by the corresponding number of individuals estimated to be partially unable to work, multiplied by the per cent productivity loss under three loss scenarios.

Sources: UNAIDS and GWR databases, ILO calculations.

**Figure 21. Lost earnings due to diminished productivity attributable to AIDS in UNAIDS Fast Track countries, 2005–2020, under three earnings loss scenarios, in billions 2010 \$PPP**



Total of average earnings at the country level for UNAIDS Fast Track countries, multiplied by the corresponding number of individuals estimated to be partially unable to work, multiplied by the per cent productivity loss under three loss scenarios.

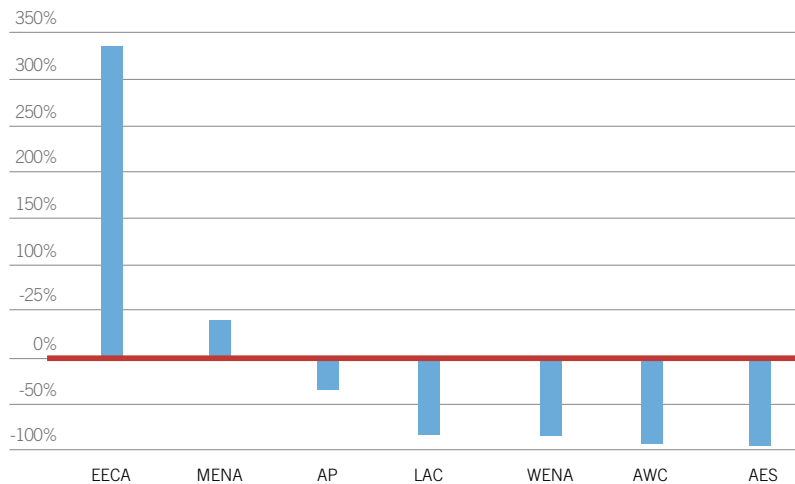
Sources: UNAIDS and GWR databases, ILO calculations.



Naturally, the absolute size of this loss is much less than for the previous impact (figure 17), since this estimate excludes deaths, and there is only partial, not full, loss of income. Nevertheless, it is interesting that the time trend differs: the decline in losses from death and full inability to work decelerates slightly from 2015 to 2020, whereas the corresponding decline from partial inability accelerates. This suggests the increasing severity of AIDS in some high-income countries, particularly in the Eastern Europe and Central Asia region, is having a disproportionate effect on the most serious outcomes, those that result in full rather than partial inability to work. This shows up more clearly in earnings impacts than epidemiology because the affected workers earn higher wages.

Figures 22 and 23 show the change in losses stemming from diminished productivity between 2005 and 2020, according to region and income group. Note that the choice of loss scenario does not affect this calculation, since the scenarios are exactly proportional.

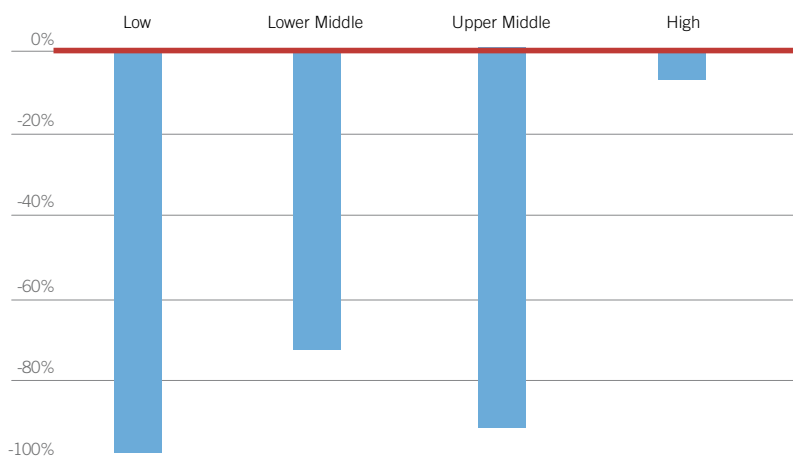
**Figure 22. Per cent change in income lost due to partial inability to work attributable to AIDS, 2005–2020, by region**



Estimated lost income due to partial inability to work attributable to AIDS in 2020, minus the estimated lost income in 2005, as a proportion of 2005 lost income.

Sources: UNAIDS and GWR databases, ILO calculations.

**Figure 23. Per cent change in income lost due to partial inability to work attributable to AIDS, 2005–2020, by income group**



Estimated lost income due to partial inability to work attributable to AIDS in 2020, minus the estimated lost income in 2005, as a proportion of 2005 lost income.

Sources: UNAIDS and GWR databases, ILO calculations.

Separating global trends by region and income group reveals the unevenness of progress on this front, as the relative concentration of HIV shifts from countries emerging from high prevalence to new countries with less experience to draw on. Hastening the provision of ART to this latter group should be a high priority.

### **(c) The burden of unpaid care work falling on households with AIDS cases**

In addition to the relatively visible cost of lost earnings due to AIDS symptoms, there is a largely invisible cost in the form of the extra labour required by other household members to care for sufferers. This is ‘work’ just as much as employment outside the home, since it provides a vital service that in other contexts might be purchased from professional caregivers. Those who supply this care do so at the cost of some other activity, whether it be remunerated labour foregone (adults) or time for education and play (children). Although it is normally not compensated, care work is hardly free.

In this report an approach for estimating the amount of such labour has been developed, described in some detail in the methodology section. To summarize, the initial simplifying assumption is that all individuals either fully or partially unable to work due to AIDS symptoms require such care, and that only such individuals require it. This is probably conservative: the first part of this assumption is likely to be closer to the truth than the second. Nevertheless, it allows an estimate of the number of cases requiring care based on prior estimates for partial and full inability to work.

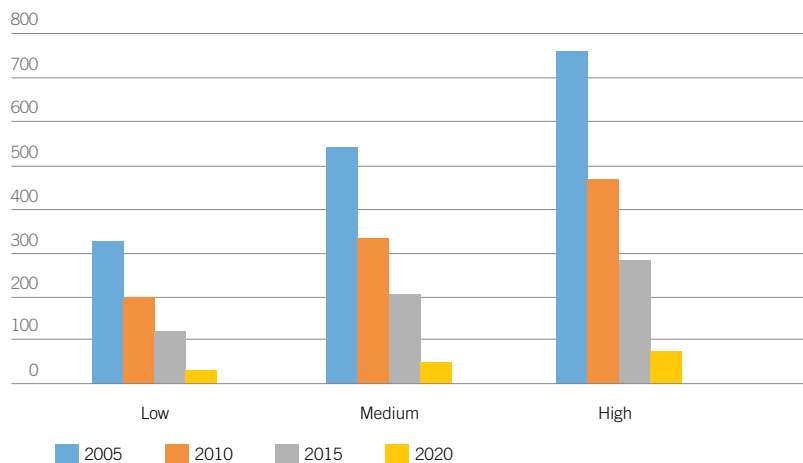
Following on from this, an estimate was needed of the number of households corresponding to the calculation of the number of AIDS-affected individuals. Implicitly, this assumes that having multiple AIDS cases does not burden a household with more care work than having just one such case; this is probably not strictly true, but neither is it likely that the burden would be a simple multiple of the number of cases, and it has the advantage of being more conservative.

To estimate the average number of AIDS cases per AIDS-affected household at the national level, the survey data from the Demographic and Health Surveys (DHS) was used. DHS has a module specifically on HIV and AIDS, and there was reliable survey data on individual and household characteristics of people living with HIV for 31 countries. From this the average ratios of cases to households for the remaining countries could be estimated.

As for the amount of care work, three studies were identified that examined this question in specific settings. Using these results, three possible levels of average caring work per household, per week (in hours), have been proposed: 15 (low), 25 (medium) and 35 (high). Thus, the number of individuals partially or fully unable to work due to AIDS, multiplied by the household-to-case ratio, multiplied by the number of hours of care per week gives the aggregate amount of caring work. The weekly amount is multiplied by 52 to express this number on an annual basis and then divided by 2,000, the product of 40 hours by 50 weeks, to arrive at a full-time labour equivalent.

This burden and the next two (extra chores and diminished education for children) apply only to a subset of countries, as discussed above. Hence the 'global' totals presented for these non-financial burdens encompass fewer countries: 98 rather than 157. With this in mind, figures 24 and 25 show the trend in care burdens across all three scenarios at the global level and for UNAIDS Fast Track countries respectively.

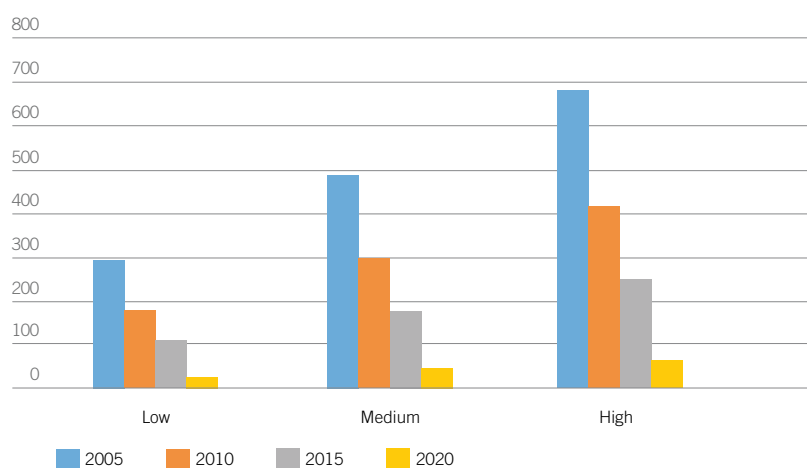
**Figure 24. Global household care work for workers with severe AIDS symptoms over three burden scenarios, 2005–2020, in thousands of work-years**



Calculated from the combined number of individuals estimated to be partially or fully unable to work, multiplied by the ratio of households to cases, both at country level, multiplied by the hours of care work per week under three burden scenarios.

Sources: UNAIDS 2016 estimates, DHS with HIV/AIDS modules, ILO calculations.

**Figure 25. Household care work for workers with severe AIDS symptoms in UNAIDS Fast Track countries over three burden scenarios, 2005–2020, in thousands of work-years**



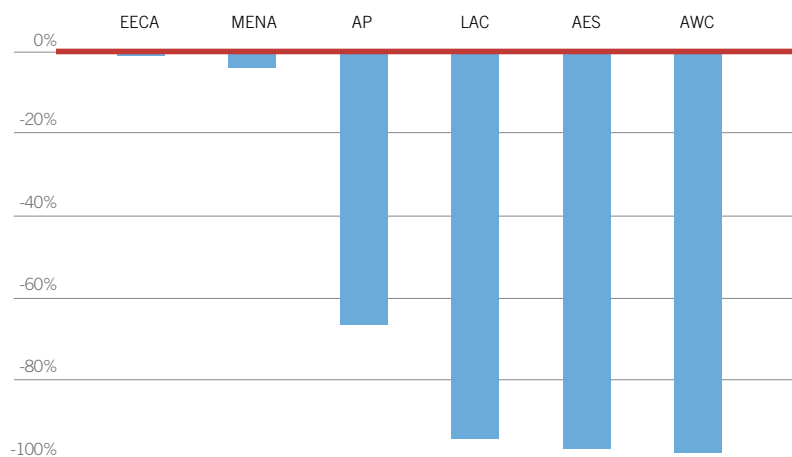
Calculated from the combined number of individuals estimated to be partially or fully unable to work in UNAIDS Fast Track countries, multiplied by the ratio of households to cases, both at country level, multiplied by the hours of care work per week under three burden scenarios.

Sources: UNAIDS 2016 estimates, DHS with HIV/AIDS modules, ILO calculations.

Both figures tell similar stories. A heavy burden of care was imposed at the beginning of this period: the equivalent of almost 800,000 work-years under the high-impact scenario at the global level. By any standard, this is an enormous quantity of unpaid human labour devoted to caring for those living with AIDS symptoms. Over the period covered in this report, however, the care burden progressively diminishes, accelerating as 2020 approaches. This is attributable to incomes playing no role in calculating this impact, so the relative shift in HIV prevalence away from the lowest-income countries does not offset the expanding effect of ART. This, of course, is a positive consideration. On the other hand, between 30,000 and 70,000 people-years are taken up by care work in 2020, a burden that falls on individuals in addition to those directly living with AIDS symptoms. One way to make sense of this number is that, as reported in figure 11, about 40,000 people are projected to be fully unable to work in 2020 due to the effects of AIDS, so if each hour spent caring for an individual with AIDS is one less hour available for work that would otherwise be undertaken, this loss to the global labour force is likely to at least double when the invisible burden of care work is included.

Figures 26 and 27 show the change over the 2005–2020 period in this impact by region and income group.

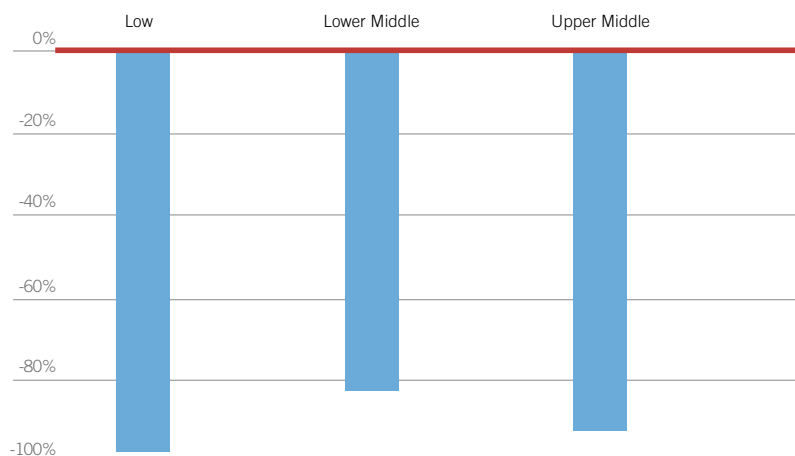
**Figure 26. Per cent change in the burden of caring for workers with severe AIDS symptoms, 2005–2020, by region**



The estimated care work burden in 2020, minus the estimated burden in 2005, as a proportion of its 2005 level.

Sources: UNAIDS 2016 estimates, DHS with HIV/AIDS modules, ILO calculations.

**Figure 27. Per cent change in the burden of caring for workers with severe AIDS symptoms, 2005–2020, by income group**



The estimated care work burden in 2020, minus the estimated burden in 2005, as a proportion of its 2005 level.

Sources: UNAIDS 2016 estimates, DHS with HIV/AIDS modules, ILO calculations.

The decline in the care burden is striking over most regions and all income groups. Note that for this impact, only the non-European subset of EECA countries is being observed, and rather than increasing, its burden is essentially unchanged. There is also no high-income group in figure 27, for reasons described above.

#### **(d) Extra hours of household chores performed by children in AIDS-affected households**

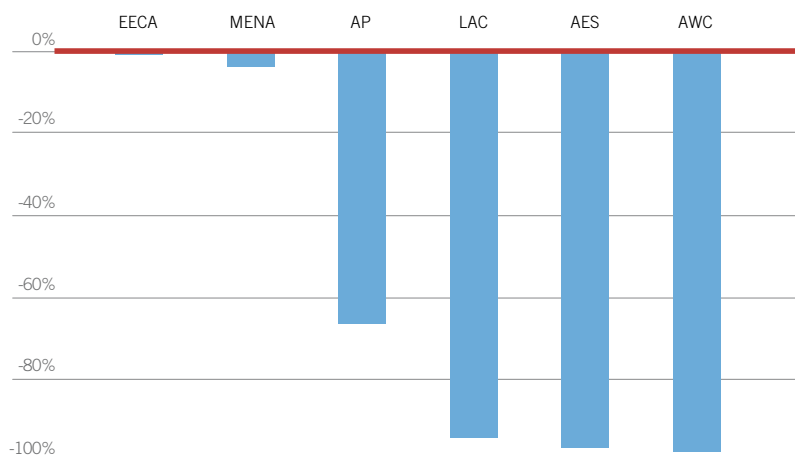
When the intensity of AIDS symptoms causes workers to lose productivity or even withdraw from work altogether, it can be assumed that their ability to function in the household also diminishes. Research shows that this typically leads to a greater reliance on children to perform household tasks (see the appendix for documentation). This can be appropriate if the workload is only a few hours per week, but excessive care work by children is a well-recognized problem. What constitutes excessive is difficult to determine precisely – what might be too much in one context or for one child might be reasonable for another – but for general guidance, the ILO has determined that the cut-off level of household chores that

qualifies as child labour is 21 hours per week (Lyon et al., 2003). This may overcount or undercount such labour for individual children but it is a reasonable statistical standard for evaluating large sample data. The chore burden measured in AIDS-affected households is additional to whatever work children already perform; some who have no other responsibilities will have a modest burden with these additional hours, while others will have an already excessive burden intensified. Experience shows that defining child labour in a way that includes excessive household chores is essential to avoid gender bias in measurement, since girls are typically assigned the bulk of these tasks.

To arrive at an estimate for the chore burden assumed by children, the starting point is the number of AIDS-affected households (including, in this case, those affected by AIDS-related death) and then an estimate is made of the average number of children in such households. Again, the DHS with an HIV and AIDS module is relied upon, which report how many children reside in each household associated with at least one person living with HIV, and this is used to extrapolate to countries without such surveys. Two studies are also drawn on, with three observations on average increases in chores performed by children due to the AIDS-related death and disability of other household members. This gives three estimates of the weekly increase in the number of hours of chores per child: 2.5 (low), 3.5 (medium) and 4 (high). Further discussion of these procedures can be found in the methodology section of this report. To sum up the wide range of effects in a single number, the weekly totals are divided by the cut-off level of 21 to measure this burden in child labour equivalents.

Figures 28 and 29 illustrate how these numbers are evolving over the period covered by this report.

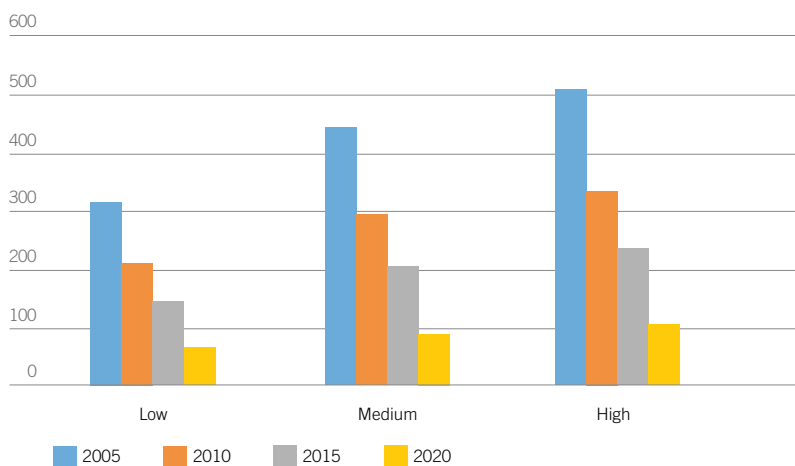
**Figure 28. Global chore burden for households with workers with severe AIDS symptoms over three burden scenarios, 2005–2020, in thousands of child labour equivalents**



Calculated as the number of deaths plus the combined numbers of those partially or fully unable to work, multiplied by the households per AIDS cases, multiplied by the children per household, all at country level, multiplied by chore hours per week under three burden scenarios.

Sources: UNAIDS 2016 estimates, DHS with HIV/AIDS modules, ILO calculations.

**Figure 29. Chore burden for households with workers with severe AIDS symptoms in UNAIDS Fast Track countries over three burden scenarios, 2005–2020, in thousands of child labour equivalents**



Calculated as the number of deaths, plus the combined numbers of those partially or fully unable to work in UNAIDS Fast Track countries, multiplied by the households per AIDS cases, multiplied by the children per household, all at country level, multiplied by chore hours per week under three burden scenarios.

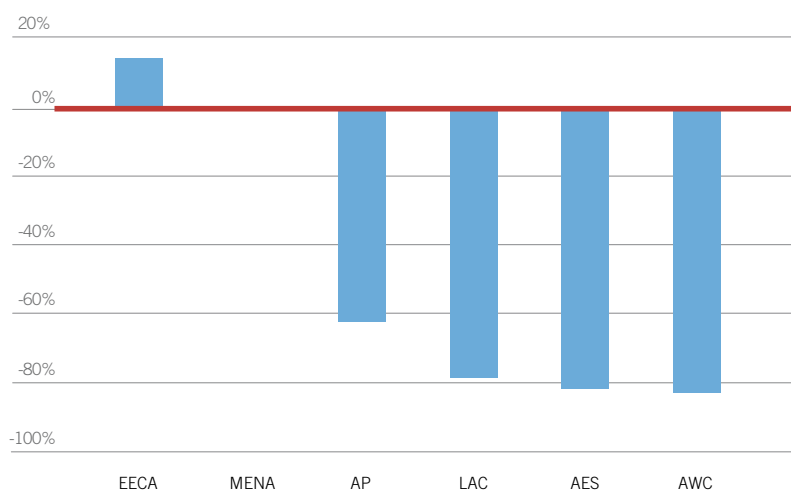
Sources: UNAIDS 2016 estimates, DHS with HIV/AIDS modules, ILO calculations.



The estimates begin at a high level, with the global total between 350,000 and 570,000 child labour equivalents. To put this in perspective, there were slightly more than 150 million children engaged in child labour (according to the criteria of ILO Convention No. 138) in 2008 (Diallo et al., 2013). The amount of child labour accounted for by excess household chores attributable to AIDS at this time was a small but not negligible fraction of this. The measure of child labour equivalents falls far more rapidly than child labour as a whole up to 2020, however, demonstrating that this source of work burden on children has become less consequential in global terms. On the other hand, as many as 120,000 children are expected to still be enmeshed in excessive household work at the end of the study period. While not large as a component of total child labour, it nevertheless pertains to a large number of children.

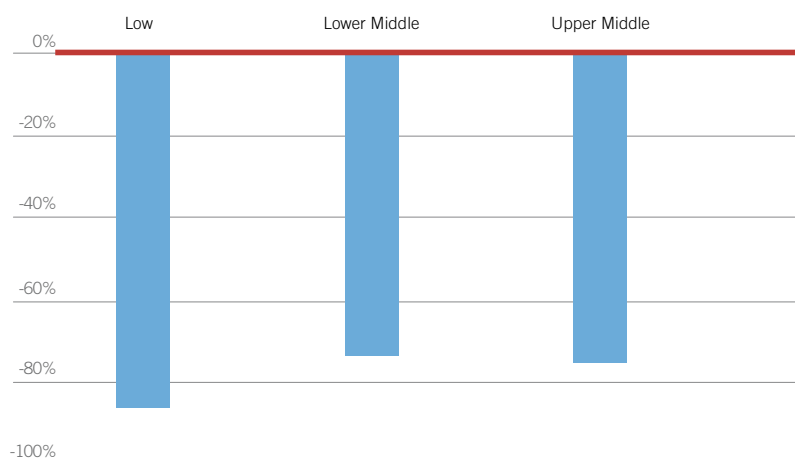
Figures 30 and 31 display these estimates by region and income group. The distribution of this burden does not precisely track that of care work, since it depends on mortality as well as morbidity. This has an effect on the Eastern European and Central Asia region in particular, since mortality is expected to increase in its non-European portion. As before, the choice of burden scenario does not alter the percentage change over the 2005–2020 period. It is striking that the greatest reductions in the chore burden are anticipated in the regions with the greatest incidence and severity of the AIDS epidemic in 2005, especially in sub-Saharan Africa. Increases, however, are occurring in countries where the epidemic is relatively new.

**Figure 30. Per cent change, chore burden in households with workers with severe AIDS symptoms, 2005–2020, by region**



The estimated chore burden in 2020, minus its estimate in 2005, as a proportion of its 2005 estimate.  
Sources: UNAIDS 2016 estimates, DHS with HIV/AIDS modules, ILO calculations.

**Figure 31. Per cent change, chore burden in households with workers with severe AIDS symptoms, 2005–2020, by income group**



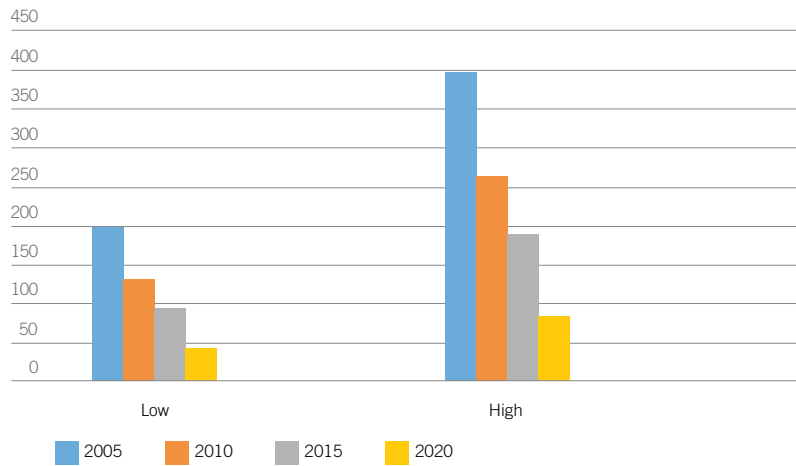
The estimated chore burden in 2020, minus its estimate in 2005, as a proportion of its 2005 estimate.  
Sources: UNAIDS 2016 estimates, DHS with HIV/AIDS modules, ILO calculations.

### (e) Children whose education is impaired due to living in AIDS-affected households

A major concern from the earliest days of the rapid spread of HIV was that children in households marked by death and disability would either fail to attend school or be so distracted that their educational progress would be disrupted. In general, however, research has not supported the worst fears of those tracking the disease (Ainsworth and Filmer, 2002). Nine studies were identified that examined the potential relationship between the impacts of AIDS on households and children's educational achievement, and concluded that a weak connection probably exists at the community or national level. Specifically, the low estimate is that none of the children in affected households will be educationally impaired, while the medium estimate is 5 per cent and the high estimate is 10 per cent (details discussed in methodology section).

By combining the number of deaths with cases of partial or full disability, translating this to households and then to the number of children in these households, the results depicted in figures 32 and 33 are obtained.

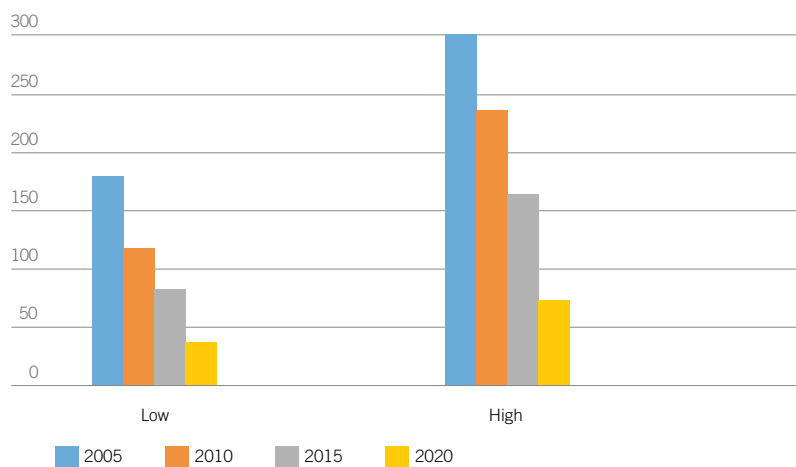
**Figure 32. Global count, children in AIDS-affected households with impaired education over two burden scenarios, 2005–2020, in thousands**



Calculated as the number of deaths, plus the combined numbers of those partially or fully unable to work, multiplied by the households per AIDS cases, multiplied by the children per household, all at country level, multiplied by the rate of education impairment under two burden scenarios.

Sources: UNAIDS 2016 estimates, DHS with HIV/AIDS modules, ILO calculations.

**Figure 33. Children in AIDS-affected households with impaired education over two burden scenarios, UNAIDS Fast Track countries, 2005–2020, in thousands**



Calculated as the number of deaths, plus the combined numbers of those partially or fully unable to work in UNAIDS Fast Track countries, multiplied by the households per AIDS cases, multiplied by the children per household, all at country level, multiplied by the rate of education impairment under two burden scenarios.

Sources: UNAIDS 2016 estimates, DHS with HIV/AIDS modules, ILO calculations.

About 30 per cent as many children are estimated to be at risk of impaired education compared with excessive household chores (child labour) under the medium scenarios, and more than 50 per cent under the high scenarios. This reflects the relatively smaller impact suggested in the literature. If AIDS-engendered child labour constitutes a small fraction of the global child labour problem, education impairments from the impact of workers' AIDS symptoms on households play an even smaller role. One measure of the education gap is the number of children who should be enrolled in primary or lower secondary education but who are not; the most recent Global Monitoring Report of the Education for All initiative estimates that 121 million children are in this situation (UNESCO, 2016). Since impairment is being defined more broadly to include shortfalls in performance as well as attendance, the global benchmark is arguably much larger. Therefore, the proportion of all educationally impaired children who find themselves in this position due to the effects of AIDS in their households is small. Nevertheless, a finding that tens of thousands of children may be losing educational opportunities to this disease should not be dismissed. It represents a further consequence of not extending ART and prevention measures as rapidly or widely as we could.



## ***V. Summary and conclusions***

The news on HIV and AIDS since the start of the new millennium has been mostly good, with reduced transmission, mortality and morbidity. In some parts of the world, this disease is becoming a rarity due to ART being given to millions of people living with HIV. Particularly noticeable is the expected decline in AIDS deaths by nearly three-quarters of a million individuals in the workforce in sub-Saharan Africa alone between 2005 and 2020, with another 100,000 reduced deaths in the workforce anticipated in the Asia-Pacific region over the same period. However, the spread of ART has been uneven. In some countries, there has been an increase in the number of people newly infected with HIV and experiencing the ravages of AIDS. This is exemplified by the Eastern Europe and Central Asia region, where the annual number of AIDS deaths in the labour force is expected to increase by more than 34,000 in the 2005–2020 period. Above all, future progress may be slowed by the emergence of resistance to the most commonly used antiretroviral drugs unless public health programmes are expanded to specifically address this risk and act to close gaps in ART service delivery associated with the emergence and transmission of drug-resistant HIV.

The purpose of this report is to translate these developments into measures of the impact on workers, their households and communities. The first step was to identify, to the extent possible, the labour force component of the HIV population. Without information about the labour force status of each individual, those of working age were selected and averages for labour force participation were applied. This enabled estimates of prevalence, mortality and morbidity to be generated for national, regional and global labour forces. These were then used as inputs into formulas to calculate economic and social burdens: lost income, excess household work and potential effects on education. In doing this, it is hoped that light will be shed on the consequences of AIDS that often go unseen amid the purely health-related assessments: AIDS is economically costly and imposes a large hidden burden on those who live with people suffering from its symptoms. The report shows, for instance, that even in a world in which ART has reduced the incidence and severity of this disease, the financial costs resulting from AIDS morbidity and mortality, which will likely total more than \$7.8 billion in 2020, are nonetheless comparable with the funds currently being spent internationally to reduce them. For every worker laid low by AIDS, there is a household member, perhaps several, whose life opportunities are curtailed as they cope with the consequences. The report finds, for example, that the medium prediction for the number of children experiencing an added, child labour-level chore burden in AIDS-affected households will be nearly 140,000 in 2020, and an additional full-time equivalent of more than 50,000 unpaid workers will care for their afflicted household members in that year.

We can learn also from the difficulties faced in constructing estimates of the social and economic impacts of this disease. It is understandable that health data concentrate on health status itself: public health practitioners want to know the dimensions of ill-health and who is at risk of contagion or intensification of symptoms. Nevertheless, there is a need also for better data on the economic and social matrix within which diseases develop and have their effects. Public health should not be seen as a separate activity, isolated from education, children's rights, social protection or economic development, since health status affects all of them. The impacts examined in this report document such connections for HIV and AIDS. Billions of dollars are lost in foregone earnings. The full-time and child labour equivalents for care and chore labour reach into the hundreds of thousands; tens of thousands more children are at risk of diminished or foreclosed educational opportunity. Action against this disease, in particular, the most comprehensive and rapid dissemination of ART, as well as testing and prevention measures, should be viewed as key aspects of economic and social policy.

If health and other policy arenas overlap, then health data need better linkages to social and economic data. One should not have to rely on fallible estimation formulas to assess the earnings and occupations of workers living with HIV. Direct observations of their household status and the number of children likely to be affected by their health outcomes should also be available. Living standards and labour force surveys should have more extensive health data, and health surveys more extensive living standards data. Governments and nongovernmental organizations would then be in a better position to consider how a combination of interventions and investments, in health services, education, social protection and other domains, could jointly address the multidimensional problems all countries face. If this report has pushed the existing data to the limits of their reliability, it is in part to call attention to information gaps that ought to be closed.

This report is both a call to action and a recognition of what has already been accomplished. The unmet needs that have been documented are all the more pressing because we have seen what concerted international effort can achieve.



## Appendix

### (a) Country coverage

Countries included in this report are listed below in Section B. Countries for which data are unavailable and are not included, either individually or as components of a global total, are: Antigua and Barbuda, Bahrain, Comoros, Dominica, Grenada, Iraq, Jordan, Kiribati, Kosovo, Kuwait, Libyan Arab Jamahiriya, Lichtenstein, Micronesia, Monaco, Nauru, Palau, Qatar, Samoa, San Marino, São Tomé and Príncipe, Saudi Arabia, Seychelles, Solomon Islands, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines, Syrian Arab Republic, Tonga, Tuvalu, United Arab Emirates, Vanuatu, and the West Bank and Gaza.

### (b) Composition of country groups

Various groupings of countries are employed in the statistical analysis on which this report is based. This section specifies the composition of these groups. Countries for which essential data – epidemiological or extrapolation variables – are missing are not included.

#### (1) Geographic regions:

**Africa–East and Southern (AES):** Angola, Botswana, Burundi, Eritrea, Ethiopia, Kenya, Lesotho, Madagascar, Malawi, Mauritius, Mozambique, Namibia, Rwanda, South Africa, Swaziland, United Republic of Tanzania, Uganda, Zambia, Zimbabwe.

**Asia and Pacific (AP):** Australia, Bangladesh, Bhutan, Cambodia, China, Fiji, Indonesia, Japan, Democratic People’s Republic of Korea, Republic of Korea, Lao People’s Democratic Republic, Malaysia, Maldives, Mongolia, Myanmar, Nepal, New Zealand, Pakistan, Papua New Guinea, Philippines, Singapore, Sri Lanka, Thailand, Viet Nam.

**Africa–Western and Central (AWC):** Benin, Burkina Faso, Cabo Verde, Cameroon, Central African Republic, Chad, Congo, Democratic Republic of the Congo, Côte d’Ivoire, Equatorial Guinea, Gabon, the Gambia, Ghana, Guinea, Guinea-Bissau, Liberia, Mali, Mauritania, Niger, Nigeria, Senegal, Sierra Leone, Togo.

**Eastern Europe and Central Asia (EECA):** Armenia, Azerbaijan, Belarus, Bulgaria, Croatia, Czech Republic, Estonia, Georgia, Hungary, Kazakhstan, Kyrgyzstan, Latvia, Lithuania, Malta, Poland, Republic of Moldova, Romania, Russian Federation, Serbia, Slovakia, Slovenia, Tajikistan, Turkey, Ukraine, Uzbekistan.

Latin America and the Caribbean (LAC): Argentina, Bahamas, Barbados, Belize, Plurinational State of Bolivia, Brazil, Chile, Colombia, Costa Rica, Cuba, Dominican Republic, Ecuador, El Salvador, Guatemala, Guyana, Haiti, Honduras, Jamaica, Mexico, Nicaragua, Panama, Paraguay, Peru, Suriname, Trinidad and Tobago, Uruguay, Bolivarian Republic of Venezuela.

Middle East and North Africa (MENA): Afghanistan, Algeria, Djibouti, Egypt, Islamic Republic of Iran, Lebanon, Morocco, Oman, Somalia, Sudan, Tunisia, Yemen.

Western Europe and North America (WENA): Austria, Belgium, Canada, Cyprus, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Israel, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, TFYR Macedonia, United Kingdom, United States of America.

## **(2) Income groups:**

Low: Afghanistan, Benin, Burkina Faso, Burundi, Cambodia, Central African Republic, Chad, Comoros, Democratic Republic of the Congo, Eritrea, Ethiopia, the Gambia, Guinea, Guinea-Bissau, Haiti, Democratic People's Republic of Korea, Liberia, Madagascar, Malawi, Mali, Mozambique, Nepal, Niger, Rwanda, Sierra Leone, Somalia, United Republic of Tanzania, Togo, Uganda, Zimbabwe.

Lower-middle: Armenia, Bangladesh, Bhutan, Plurinational State of Bolivia, Cabo Verde, Cameroon, Congo, Côte d'Ivoire, Djibouti, Egypt, El Salvador, Georgia, Ghana, Guatemala, Guyana, Honduras, Indonesia, Kenya, Kyrgyzstan, Lao People's Democratic Republic, Lebanon, Lesotho, Mauritania, Morocco, Myanmar, Nicaragua, Nigeria, Pakistan, Papua New Guinea, Philippines, Republic of Moldova, Sao Tome and Principe, Senegal, Sri Lanka, Sudan, Swaziland, Tajikistan, Ukraine, Uzbekistan, Viet Nam, Yemen, Zambia.

Upper-middle: Algeria, Angola, Azerbaijan, Belarus, Belize, Botswana, Brazil, Bulgaria, China, Colombia, Costa Rica, Cuba, Dominican Republic, Ecuador, Fiji, Gabon, Islamic Republic of Iran, Jamaica, Kazakhstan, Malaysia, Maldives, Mauritius, Mexico, Mongolia, Namibia, Panama, Paraguay, Peru, Romania, Serbia, South Africa, Suriname, Thailand, Tunisia, Turkey.

High: Argentina, Australia, Austria, Bahamas, Barbados, Belgium, Canada, Chile, Croatia, Czech Republic, Denmark, Equatorial Guinea, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Japan, Latvia, Lithuania, Luxembourg, Malta, Netherlands, New Zealand, Norway, Oman, Poland, Portugal, Republic of Korea, Russian Federation, Singapore, Slovakia, Slovenia, Spain, Sweden, Switzerland, Trinidad and Tobago, United Kingdom, United States of America, Uruguay, Bolivarian Republic Venezuela.

## **(3) UNAIDS Fast Track countries:**

Angola, Botswana, Brazil, Cameroon, Chad, China, Côte d'Ivoire, Democratic Republic of the Congo, Ethiopia, Ghana, Haiti, India, Indonesia, Islamic Republic of Iran, Jamaica, Kenya, Lesotho, Malawi, Mali, Mozambique, Myanmar, Namibia, Nigeria, Pakistan, Russian Federation, South Africa, South Sudan, Swaziland, United Republic of Tanzania, Uganda, Ukraine, United States of America, Viet Nam, Zambia, Zimbabwe.



### **(c) The methodology behind the epidemiological estimates**

In this section, we describe in detail the methodology and data employed to estimate HIV prevalence and ART uptake by age and sex at the national level that provide the starting point for our further estimations of workforce prevalence and economic impacts. We also briefly describe the methods used to construct projections of the key epidemiological variables to 2020.

Unless otherwise stated, the epidemiological estimates that underlie this report are based on models developed by UNAIDS. Modelled estimates are required because it is impossible to count the exact number of people living with HIV, who are newly infected or who have died as a result of AIDS throughout the world.

These estimates have been created by country teams using UNAIDS-supported software. This work combines the expertise of epidemiologists, demographers, monitoring and evaluation specialists and their technical partners. Country-submitted files were reviewed by UNAIDS, in some cases in collaboration with WHO and UNICEF. In addition to validation, reviews aimed to ensure the comparability of results across regions and countries and over time.

The software used to create the estimates was Spectrum, developed by Avenir Health ([www.AvenirHealth.org](http://www.AvenirHealth.org)). It includes the Estimates and Projections Package (EPP), developed by the East-West Center ([www.eastwestcenter.org](http://www.eastwestcenter.org)). The UNAIDS Reference Group on Estimates, Modelling and Projections provided technical guidance on the development of the HIV component of the software ([www.epidem.org](http://www.epidem.org)). Country teams used these software tools to create national HIV prevalence estimates over time that were consistent with the available data.

The first step is to estimate the trend in prevalence and incidence. In generalized epidemics, such as most countries in sub-Saharan Africa, one or more of the EPP models is fitted to the data on HIV prevalence. Five types of data are used in this process: prevalence from sentinel surveillance among pregnant women attending antenatal clinics; routine testing of pregnant women from the same sentinel clinics; routine testing of pregnant women from all clinics in the country; nationally representative population-based survey estimates of prevalence among all adults; and, in some cases, incidence estimates from national population surveys. (Sentinel surveillance is a system in which a sample of collection sites is selected, where staff are prepared to record the incidence of targeted health events, like testing positive for HIV.) The EPP models use methods that recognize the biases in different data sources. (Brown et al., 2010)

Three different EPP models are employed, depending on the extent of the data. Where data are most abundant, modellers use a highly flexible functional form that can capture year-to-year changes in epidemiological dynamics. In intermediate cases, a simpler model is employed which estimates seven parameters describing time trends for incidence and prevalence. Where data are sparse, an even simpler model uses four parameters to fit an epidemiological trend.

In countries with concentrated or low-level HIV epidemics, where HIV transmission is largely contained within key populations at higher-risk of infection (such as people who inject drugs, sex workers, and men who have sex with men), repeated prevalence studies in these populations have been used as a basis

for constructing national estimates and trends. Over time, estimates of the size of key populations are increasingly derived empirically or, when studies are not available, based on regional values and consensus among experts. Other data sources, including population surveys, surveillance among pregnant women, and HIV case reporting data, are used to estimate HIV prevalence in the general, low-risk population. Estimates of HIV prevalence and numbers on ART are used to derive national HIV incidence trends. For countries with insufficient HIV surveillance or survey data, and therefore little basis for extrapolation, but strong vital registration and disease reporting systems, the levels and trends of national HIV prevalence and incidence are derived directly from HIV case reporting and AIDS-related mortality data.

In countries with good case reporting, linking observations on individuals over time, a different tool in Spectrum called CSAVR (case surveillance and vital registration) is used to estimate incidence trends (Mahiane et al, 2017). The model derives them from underlying estimates of the lag time between new infection and diagnosis, where the functional form is flexible enough to accommodate various growth scenarios.

All these approaches estimate HIV incidence over time among all adults aged 15–49. These incidence trends are disaggregated by sex and age, either by using data from national surveys or, if that is not feasible, applying the patterns observed in case reporting.

Another important epidemiological dimension concerns viral load. New infections start with high CD4 counts, usually greater than 350 cells/microliter. Rates of progression to lower CD4 counts and AIDS-related mortality are estimated by fitting a progression model to data from the ALPHA Network, a network of cohort sites in Africa (Todd et al., 2007). Progression can be arrested, of course, by ART. The effects of ART uptake on survival are based on observed patterns of mortality compiled by the IeDEA Consortium (Yiannoutsos et al., 2012). These patterns describe annual mortality for those on ART by CD4 count at the beginning of treatment, the duration of treatment, sex, age, and region. Meanwhile, programme data describe the number of adult men and women who are receiving ART in each year.

With adult prevalence and CD4 count data, it is possible to estimate new child infections from mother-to-child transmission. These rates are calculated based on the number of HIV-positive pregnant women receiving treatments designed to counter transmission, the effectiveness of these treatments, the effects of HIV on fertility and the duration of breastfeeding. HIV-positive children are tracked by CD4 per cent and CD4 count, and timing of infection. Progression and mortality parameters are derived from child survival studies and IeDEA data on mortality on ART.

Overall demographic data, including fertility estimates, are based on the United Nations Population Division World Population Prospects. These are used for the purposes of sample-to-population extrapolation and forward projection.

UNAIDS tries to publish estimates for all countries with populations of 250,000 or more. Although all countries are encouraged to submit estimates, draft estimates are created by UNAIDS for countries that do not, based on published or otherwise available information. These draft estimates contribute to regional and global totals but are not published. As indicated in the detailed discussion of the workforce estimates in this report, we used data only for those countries for which UNAIDS supplied population HIV prevalence estimates, so non-reporting countries have been excluded. Our regional and global totals are summed from the national estimates only. The countries that have been incorporated are documented in many of the tables reproduced later in this appendix.

On incidence trends, if there were insufficient historical data to confidently state whether a decline in incidence had occurred, UNAIDS withheld earlier data to discourage users from making inaccurate inferences about trends. Specifically, incidence trends were not published if there were fewer than four data points for the population in question or if there had been no data for the past four years.

Throughout this report we have used only the point estimates for HIV prevalence, their breakdowns by sex, age and CD4 counts, as well as mortality. UNAIDS does produce uncertainty bands around its central estimates, however. These vary on a country-by-country basis and for specific years and indicators. In general, the more data that are available and the more parameters they support in modelling, the smaller these bands, though not always. For a sense of the precision of these epidemiological estimates, consider Table A-1, which reports the degree of uncertainty around one such indicator, HIV prevalence, for three countries across three years:

**Table A-1: Uncertainty as per cent of the point estimate, HIV prevalence, selected countries**

Country	2005	2010	2016
Botswana	167	188	194
Argentina	221	200	167
Morocco	500	474	545

Source: Communication from Avenir Health

These countries were chosen because they represent three different data and modelling classes: Botswana uses the two most elaborate EPP models, Argentina uses CSAVR, and Morocco uses the EPP model with the fewest parameters due to less data availability. Overall, they exhibit the expected ranking of uncertainty around point estimates, except that precision for Argentina exceeds that for Botswana in the most recent modelling year. Morocco's uncertainty band is more than double the other two countries in percentage terms. Roughly speaking, for countries with ample data, which includes nearly all of those identified as Fast Track countries, a useful rule of thumb is that the range of uncertainty for prevalence stretches from about 10 per cent below its epidemiological point estimate to about 10 per cent above.

Finally, in addition to estimates of past prevalence, viral intensity and mortality, these indicators are projected to 2020. Central to these projections are expectations for ART uptake, which affect both the severity of symptoms among the exposed population and the transmission rate that governs new infections. Once again, countries supplied reports of their own trajectories with guidance from UNAIDS. Their procedures differed, however. Some assumed their national ART coverage targets for 2020 would be met and extrapolated from this endpoint. Others assumed that coverage would remain constant over this period. There is considerable country-level uncertainty associated with 2020 projections, although some of this may cancel out at regional and global levels. In the aggregate, ART coverage is expected to reach 75 per cent among the adult population by 2020, an increase of 21 percentage points from 2016 (the last year for which we have data), but still short of the 90-90-90 target set by UNAIDS. Under the latter, 90 per cent of people living with HIV would know their status, and 90 per cent of those would be receiving ART, for a combined proportion of 81 per cent.

#### **(d) Imputations**

Here we provide details on the imputation exercises summarized in Section III.

(1) The following countries did not have sufficient wage data in the Global Wage Report and required an imputation procedure: Afghanistan, Algeria, Angola, Argentina, Bahamas, Barbados, Belarus, Belize, Bhutan, Bolivia, Brunei, Burkina Faso, Burundi, Cameroon, Cape Verde, Central African Republic, Chad, Chile, Côte d'Ivoire, Democratic Republic of the Congo, Djibouti, Equatorial Guinea, Eritrea, Fiji, Gabon, the Gambia, Ghana, Guatemala, Guinea, Guinea-Bissau, Guyana, Haiti, Lebanon, Democratic People's Republic of Korea, Liberia, Malawi, Maldives, Mali, Mauritania, Morocco, Myanmar, Namibia, Nepal, Niger, Nigeria, Papua New Guinea, Rwanda, Senegal, Sierra Leone, Somalia, South Africa, Sudan, Suriname, Swaziland, Togo, Trinidad and Tobago, Tunisia, Turkey, Uzbekistan, Yemen and Zambia.

To impute average wages to the above countries, we performed a regression in which the dependent variable is the logarithm of the average wage in 2010 or the nearest available year. The explanatory variables were the log of GDP per capita income, the share of oil rents in GDP, whether the country is in the Africa-eastern and southern region and whether it is in the Asia and Pacific region. The regression is summarized as follows:

---

Intercept	1.808 (0.381)
ln (GDP/N)	0.819 (0.039)
Oil rents	-0.013 (0.005)
AES	0.511 (0.141)
AP	-0.194 (0.092)

---

Adj. R<sup>2</sup>: 0.856  
N = 96

Here and in subsequent regressions the parenthetical numbers are standard errors of the regression coefficients.

This regression equation was used to generate imputed logarithms of average wages, which were then transformed via the exponential function to yield the wages themselves. The two continuous independent variables have the expected signs, appropriate magnitudes and large t-ratios. The dummy variables for AES and AP also have large t-ratios and suggest that the ratio of wages to GDP per capita is relatively higher in this portion of sub-Saharan Africa and relatively lower in the Asia and Pacific region.

(2) To impute the ratio of AIDS cases to households for the 68 countries lacking DHS observations, we regressed it on the HIV prevalence rate for 2010, on the presumption that higher prevalence would be associated with more cases per household. In estimating the parameters, we dropped Viet Nam from the sample, as it was an outlier. The results were:

---

Intercept	1.097 (0.016)
Prevalence	0.007 (0.002)

---

Adj. R<sup>2</sup>: 0.287  
N = 30

The regression method (ordinary least squares) generates mean predictions equal to the sample mean (it is unbiased), but the relatively low explanatory power of the regression suggests that aggregate estimates of burdens that draw on the case-to-household ratio are more reliable than those for individual countries based on imputations.

Countries for which there are DHS-provided estimates of this ratio are: Burkina Faso, Burundi, Cambodia, Cameroon, Chad, Republic of Congo, Democratic Republic of the Congo, Côte d'Ivoire, Dominican Republic, Ethiopia, Gabon, Ghana, Guinea, Haiti, Kenya, Lesotho, Liberia, Malawi, Mali, Mozambique, Niger, Rwanda, Senegal, Sierra Leone, Swaziland, United Republic of Tanzania, Uganda, Viet Nam, Zambia and Zimbabwe.

(3) To impute the average number of children per AIDS-affected household for the 75 countries lacking this observed statistic, we regressed this ratio on the ratio of youth under 16 years of age to total population and whether the country was situated in the Africa–eastern and southern region. The results were:

Intercept	-0.249 (0.497)
Youth/Pop	6.143 (1.167)
AES	-0.253 (0.104)
Adj. R <sup>2</sup> : 0.549	
N = 24	

The age structure of a country's population is a good predictor of the average number of children per AIDS-affected household. The coefficient on the AES dummy, however, suggests it overpredicts this variable in this region of Africa.

#### **(e) Tabular data**

In the body of the report we present our findings visually. Here, we provide the data in the form of tables, including country-level information. All calculations assume 50 per cent of workers with a CD4 count below 100 will be fully unable to work, and that 50 per cent with a count from 100–199 will be partially unable to do so. We consider other percentages later in this appendix.

## (1) Individuals in the labour force living with HIV and labour force HIV prevalence

**Table A-2: Individuals in the labour force living with HIV**

Country	2005			2010			2015			2020		
	Men	Women	Total	Men	Women	Total	Men	Women	Total	Men	Women	Total
Afghanistan	1,993	130	2,124	2,877	218	3,095	4,462	362	4,824	6,781	602	7,382
Albania	342	102	444	551	166	717	820	253	1,073	1,148	360	1,508
Algeria	1,997	269	2,266	3,149	537	3,686	3,962	795	4,757	4,196	938	5,133
Angola	62,012	73,499	135,511	83,904	96,976	180,880	103,330	124,550	227,880	114,423	147,988	262,411
Argentina	51,710	15,668	67,378	60,815	18,282	79,097	67,315	21,741	89,056	71,428	24,911	96,339
Armenia	1,616	289	1,906	1,984	304	2,288	2,437	412	2,850	4,991	833	5,824
Australia	14,106	1,180	15,287	16,358	1,539	17,897	19,581	2,032	21,613	22,561	2,517	25,078
Austria	3,881	897	4,778	4,508	1,124	5,632	5,019	1,335	6,354	5,291	1,502	6,793
Azerbaijan	2,147	763	2,910	4,142	1,515	5,656	6,560	2,366	8,926	8,270	3,048	11,317
Bahamas	3,783	1,600	5,383	4,380	2,088	6,468	4,690	2,350	7,040	5,347	2,540	7,887
Bangladesh	3,066	627	3,693	5,205	1,496	6,700	5,787	2,100	7,887	6,391	2,326	8,717
Barbados	999	366	1,365	1,377	521	1,899	1,626	674	2,299	1,710	796	2,505
Belarus	6,907	4,182	11,089	9,434	6,393	15,827	14,998	11,240	26,238	22,725	17,591	40,315
Belgium	8,573	3,089	11,661	10,933	4,327	15,261	13,476	5,662	19,138	15,751	6,875	22,625
Belize	1,479	752	2,231	1,544	876	2,421	1,644	968	2,611	1,944	1,166	3,110
Benin	22,108	22,832	44,939	21,788	24,537	46,324	23,328	27,795	51,123	25,540	31,870	57,410
Bhutan	555	147	702	1,056	300	1,356	1,535	461	1,996	2,013	621	2,635
Bolivia	8,543	2,616	11,159	9,762	3,234	12,996	11,164	3,963	15,127	12,845	4,801	17,646
Bosnia and Herzegovina	92	21	113	142	34	176	204	49	252	277	67	344
Botswana	109,064	126,011	235,075	120,684	142,965	263,648	129,837	160,410	290,247	134,555	170,700	305,255
Brazil	299,714	138,001	437,714	360,159	164,069	524,228	424,040	188,976	613,016	508,316	222,072	730,388
Brunei Darussalam	2	2	5	5	4	9	10	8	18	19	17	36
Bulgaria	773	161	934	1,305	272	1,577	1,982	415	2,397	3,139	663	3,802
Burkina Faso	36,832	47,495	84,327	32,449	41,344	73,793	31,606	43,165	74,771	31,626	44,391	76,017
Burundi	40,371	50,439	90,810	31,583	42,296	73,879	24,578	37,255	61,833	22,291	35,515	57,806

Source: ILO calculations based on UNAIDS 2016 estimates.

**Table A-2: Individuals in the labour force living with HIV**

Country	2005			2010			2015			2020		
	Men	Women	Total	Men	Women	Total	Men	Women	Total	Men	Women	Total
Côte d'Ivoire	183,008	140,476	323,483	166,353	138,593	304,945	160,671	149,842	310,513	163,290	165,743	329,033
Cambodia	43,973	34,420	78,393	36,262	33,930	70,193	30,707	31,465	62,172	25,527	28,561	54,088
Cameroon	168,576	186,420	354,996	187,532	213,714	401,246	197,566	245,356	442,922	218,187	283,171	501,358
Cape Verde	1,396	1,066	2,463	1,315	1,036	2,350	1,296	1,068	2,365	1,556	1,343	2,899
Central African Republic	54,556	64,098	118,654	45,773	55,756	101,528	41,111	50,434	91,545	42,499	53,875	96,373
Chad	58,157	61,408	119,564	58,731	62,431	121,162	54,102	60,150	114,253	52,789	61,958	114,747
Chile	17,034	354	17,388	21,648	538	22,186	26,860	730	27,590	32,388	1,030	33,418
Colombia	51,724	15,799	67,523	71,626	21,049	92,675	95,011	26,809	121,820	124,575	32,677	157,251
Congo	25,727	31,238	56,964	23,477	31,634	55,111	22,224	35,158	57,382	22,058	39,390	61,448
Costa Rica	3,617	883	4,500	5,011	1,302	6,313	6,455	1,626	8,081	7,756	1,975	9,732
Croatia	759	116	875	928	149	1,077	1,142	193	1,335	1,384	232	1,616
Cuba	3,355	641	3,997	7,044	1,629	8,673	14,215	3,367	17,582	28,207	5,594	33,801
Cyprus	293	92	385	398	126	524	501	163	664	604	205	810
Czech Republic	1,141	161	1,303	1,908	258	2,166	3,101	437	3,538	4,977	725	5,702
Dem. People's Republic of Korea	1,134	419	1,552	1,449	546	1,995	1,692	646	2,338	1,899	731	2,631
Democratic Republic of the Congo	164,546	208,006	372,552	142,509	185,750	328,259	115,379	162,726	278,106	109,199	157,554	266,752
Denmark	3,097	1,026	4,123	3,584	1,217	4,801	4,056	1,409	5,466	4,400	1,561	5,961
Djibouti	3,838	2,020	5,858	3,183	1,926	5,109	2,828	1,952	4,780	2,962	2,202	5,164
Dominican Republic	47,410	26,972	74,382	36,991	23,639	60,631	30,583	20,560	51,144	29,141	19,293	48,434
Ecuador	16,653	4,869	21,522	17,474	5,028	22,502	18,327	5,765	24,092	18,506	6,367	24,873
Egypt	2,125	257	2,382	4,062	529	4,592	6,983	969	7,952	9,946	1,506	11,452
El Salvador	9,996	2,932	12,928	11,653	3,730	15,383	11,434	4,137	15,572	10,387	4,104	14,491
Equatorial Guinea	7,752	8,624	16,376	11,421	13,092	24,514	10,175	12,707	22,882	8,294	11,456	19,750
Eritrea	4,725	9,139	13,863	4,139	7,472	11,611	4,239	7,009	11,248	4,364	7,071	11,435
Estonia	3,154	1,201	4,354	3,311	1,289	4,600	3,505	1,386	4,891	3,850	1,552	5,402

Source: ILO calculations based on UNAIDS 2016 estimates.



**Table A-2: Individuals in the labour force living with HIV**

Country	2005			2010			2015			2020		
	Men	Women	Total	Men	Women	Total	Men	Women	Total	Men	Women	Total
Ethiopia	257,481	398,354	655,836	206,765	317,904	524,669	219,552	329,520	549,072	231,494	349,873	581,366
Fiji	176	36	212	268	56	324	437	97	534	709	161	870
Finland	1,362	510	1,872	1,774	655	2,429	2,211	837	3,048	2,587	1,005	3,592
Gabon	11,106	20,090	31,196	12,195	21,323	33,519	11,908	21,655	33,563	11,846	23,220	35,065
Gambia	5,797	6,995	12,792	6,443	8,021	14,464	6,554	8,798	15,352	6,952	9,591	16,542
Georgia	1,932	751	2,683	3,802	1,083	4,885	6,497	1,365	7,862	9,635	1,616	11,251
Ghana	9,7743	128,955	226,698	89,210	121,906	211,115	85,546	121,781	207,327	83,078	122,353	205,431
Greece	8,435	1,395	9,831	9,862	1,721	11,583	11,294	1,935	1,3229	1,3705	2,385	16,091
Guatemala	20,381	5,069	25,450	26,157	8,416	34,573	30,604	11,448	42,052	33,153	14,044	47,197
Guinea	28,883	36,770	65,652	32,880	42,310	75,189	37,292	49,681	86,973	40,752	56,661	97,413
Guinea-Bissau	10,356	11,624	21,980	12,568	14,774	27,342	12,902	16,172	29,074	13,225	17,759	30,984
Guyana	2,284	1,131	3,415	2,905	1,570	4,475	3,292	1,986	5,278	3,227	2,128	5,355
Haiti	83,143	92,451	175,593	60,683	73,354	134,037	41,983	56,503	98,486	34,065	48,899	82,964
Honduras	14,132	5,887	20,019	1,1875	4,697	16,573	9,710	4,260	13,970	8,407	4,136	12,543
Hungary	2,078	182	2,260	2,615	233	2,847	3,276	294	3,570	4,615	410	5,024
Iceland	158	57	215	208	79	287	260	103	363	322	129	450
India	1,279,874	323,568	1,603,442	1,162,487	251,551	1,414,039	1,091,443	262,947	1,354,389	1,072,835	272,580	1,345,415
Indonesia	158,172	30,762	188,934	298,520	82,742	381,262	393,689	130,288	523,976	500,110	165,489	665,598
Islamic Republic of Iran	24,936	3,679	28,614	32,545	4,116	36,661	40,105	5,275	45,380	45,343	6,332	51,676
Ireland	2,997	967	3,965	3,519	1,213	4,732	4,104	1,426	5,530	4,846	1,717	6,563
Italy	58,737	16,216	74,952	69,321	19,850	89,171	78,515	23,029	101,544	83,960	25,253	109,213
Jamaica	16,284	7,596	23,880	15,123	7,351	22,474	15,078	7,714	22,792	16,219	8,172	24,391
Japan	10,223	1,303	11,526	13,534	1,787	15,321	18,183	2,444	20,628	22,538	3,087	25,625
Kazakhstan	5,682	1,236	6,918	8,749	2,727	11,475	14,400	5,997	20,397	24,656	11,747	36,403
Kenya	442,218	476,759	918,977	432,934	484,953	917,887	485,701	587,313	1,073,014	551,947	698,219	1,250,166
Kyrgyzstan	1,655	533	2,188	3,552	1,192	4,744	4,990	1,809	6,799	7,955	2,799	10,754
Lao People's Democratic Republic	3,565	1,412	4,978	5,472	2,376	7,848	6,129	2,980	9,109	6,640	3,406	10,047

Source: ILO calculations based on UNAIDS 2016 estimates.

**Table A-2: Individuals in the labour force living with HIV**

Country	2005			2010			2015			2020		
	Men	Women	Total	Men	Women	Total	Men	Women	Total	Men	Women	Total
Latvia	3,843	1,467	5,311	3,996	1,622	5,618	4,102	1,652	5,754	4,962	2,014	6,977
Lebanon	989	39	1,028	1,251	61	1,312	1,726	95	1,821	2,006	109	2,115
Lesotho	81,649	94,279	175,928	93,090	105,985	199,075	103,250	121,387	224,637	110,916	133,495	244,411
Liberia	10,877	13,361	24,239	9,341	11,739	21,080	8,213	10,761	18,974	8,200	11,040	19,239
Lithuania	1,503	143	1,645	1,517	171	1,688	1,564	187	1,751	1,765	214	1,979
Luxembourg	631	199	830	852	282	1,134	1,051	358	1,408	1,240	444	1,684
Madagascar	22,091	19,068	41,159	18,769	15,993	34,762	23,514	16,656	40,170	38,734	22,938	61,672
Malawi	333,554	422,282	755,835	322,990	469,052	792,042	325,854	490,683	816,537	321,423	505,898	827,321
Malaysia	90,407	3,750	94,157	82,282	5,884	88,166	67,964	6,704	74,668	56,339	6,456	62,795
Maldives	19	5	25	18	5	23	14	5	19	12	4	16
Mali	29,048	20,852	49,901	33,059	23,260	56,319	37,346	26,999	64,345	43,113	30,915	74,028
Malta	214	38	253	317	71	387	459	105	565	685	163	848
Mauritania	5,818	2,120	7,938	5,804	2,351	8,155	5,181	2,156	7,337	4,997	2,215	7,212
Mauritius	6,905	973	7,878	6,370	1,121	7,492	5,406	1,154	6,560	4,773	1,250	6,022
Mexico	113,081	13,079	126,160	122,032	17,152	139,184	139,676	21,673	161,349	163,013	27,451	190,465
Mongolia	26	5	32	107	17	124	266	45	310	361	63	424
Morocco	9,033	2,370	11,403	11,992	2,478	14,471	13,221	2,655	15,876	14,868	2,809	17,676
Mozambique	361,544	517,681	879,225	458,500	659,636	1,118,136	515,558	762,830	1,278,388	545,248	826,591	1,371,839
Myanmar	154,709	55,100	209,809	140,366	60,967	201,333	128,799	65,816	194,615	140,979	71,101	212,080
Namibia	59,340	70,921	130,261	63,009	77,782	14,0791	66,707	86,033	152,739	69,145	90,473	159,618
Nepal	29,118	12,214	41,332	268,92	13,030	39,922	21,799	12,383	34,182	19,279	12,388	31,668
Netherlands	14,326	2,315	16,641	16,852	2,842	19,694	19,098	3,375	22,474	20,950	3,758	24,708
New Zealand	1,563	364	1,927	1,956	482	2,438	2,335	581	2,916	2,780	737	3,517
Nicaragua	5176	1,752	6,928	5,187	1,573	6,760	6,497	1,451	7,949	8,802	1,464	10,266
Niger	33,478	12,003	45,481	26,454	10,072	36,526	19,803	9,627	29,430	1,7433	10,560	2,7992
Nigeria	839,875	788,379	1,628,253	897,825	863,240	1,761,065	975,622	980,883	1,956,504	1,137,568	1,170,624	2,308,192
Norway	1,661	620	2,281	1,977	748	2,724	2,552	973	3,526	3,101	1,204	4,305
Oman	956	115	1,072	1,364	165	1,529	1,675	238	1,913	2,028	301	2,329
Pakistan	12,436	1,108	13,543	31,034	3,281	34,315	65,471	7,618	73,089	103,493	13,497	116,990
Panama	8,062	2,210	10,272	9,318	2,625	11,943	10,850	3,131	13,981	12,677	3,762	16,438
Papua New Guinea	10,933	13,049	23,982	11,352	13,914	25,266	12,614	16,076	28,689	14,240	18,509	32,750

Source: ILO calculations based on UNAIDS 2016 estimates.

**Table A-2: Individuals in the labour force living with HIV**

Country	2005			2010			2015			2020		
	Men	Women	Total	Men	Women	Total	Men	Women	Total	Men	Women	Total
Paraguay	8,907	2,421	11,328	10,454	3,000	13,454	11,182	3,491	14,673	11,517	3,821	15,339
Peru	36,993	11,574	48,567	37,977	13,299	51,275	42,408	14,623	57,031	43,678	15,793	59,471
Philippines	3,287	924	4,211	11,088	1,519	12,607	32,112	2,413	34,525	60,800	3,864	64,665
Poland	13,206	2,914	16,120	15,758	3,580	19,337	17,858	4,022	21,879	21,732	4,893	26,625
Portugal	18,938	7,238	26,176	20,380	8,433	28,813	20,490	8,738	29,228	21,995	9,527	31,522
Republic of Korea	6,632	1,825	8,457	9,322	2,647	11,969	12,307	3,580	15,887	15,126	4,495	19,621
Republic of Moldova	5,267	2,062	7,328	5,829	2,312	8,142	6,954	3,077	10,031	7,486	3,480	10,966
Romania	4,602	2,568	7,169	5,382	3,127	8,509	6,077	3,748	9,825	6,495	4,207	10,702
Rwanda	60,314	87,029	147,343	61,652	93,184	154,836	68,601	104,992	173,593	71,362	109,828	181,189
Senegal	19,086	18,533	37,619	17,581	19,409	36,991	14,215	19,410	33,625	13,036	18,412	31,448
Sierra Leone	13,589	17,166	30,755	16,091	20,805	36,895	15,373	21,101	36,475	15,438	22,120	37,557
Singapore	2,120	659	2,778	2,864	880	3,744	3,626	1,031	4,656	4,191	1,336	5,527
Slovakia	394	31	425	667	55	722	1,121	99	1,220	1,904	169	2,073
Slovenia	359	32	391	499	44	543	638	57	695	794	72	866
Somalia	11,265	5,280	16,545	11,191	5,547	16,738	11,414	5,957	17,371	13,261	7,174	20,435
South Africa	2,026,797	1,981,633	4,008,431	1,898,862	1,961,771	3,860,632	2,087,937	2,296,828	4,384,766	2,280,241	2,607,391	4,887,632
Spain	89,233	19,289	10,8521	93,694	22,633	116,327	89,071	21,856	110,927	84,509	20,676	105,185
Sri Lanka	772	151	923	1,498	305	1,803	2,462	535	2,997	3,660	836	4,496
Sudan	11,344	4,541	15,886	18,300	6,888	25,188	24,080	8,922	33,002	31,255	11,856	43,110
Suriname	1,586	860	2,446	1,658	940	2,598	1,659	968	2,627	1,764	1,067	2,831
Swaziland	49,214	38,153	87,367	5,8791	48,882	107,673	70,751	61,831	132,582	77,432	70,467	147,899
Sweden	3,964	1,505	5,469	4,884	1,868	6,752	6,278	2,470	8,748	7,628	3,066	10,694
Tajikistan	5,083	2,083	7,167	7,629	2,775	10,404	9,524	3,859	13,383	10,823	5,179	16,002
TFYR Macedonia	57	16	74	89	24	113	127	34	161	167	47	214
Thailand	307,935	137,601	445,536	270,767	143,933	414,700	235,201	145,006	380,207	202,079	135,990	338,068
Togo	45,770	64,653	110,423	38,339	54,448	92,787	34,651	51,403	86,054	33,833	52,497	86,330
Trinidad and Tobago	4,865	2,568	7,434	5,085	3,187	8,272	4,883	3,603	8,486	4,635	3,666	8,301
Tunisia	493	63	556	960	140	1,100	1,506	249	1,755	1,956	346	2,301
Turkey	3,820	554	4,374	7,108	1,223	8,331	13,208	2,281	15,489	23,789	4,133	27,922

Source: ILO calculations based on UNAIDS 2016 estimates.

**Table A-2: Individuals in the labour force living with HIV**

Country	2005			2010			2015			2020		
	Men	Women	Total	Men	Women	Total	Men	Women	Total	Men	Women	Total
Turkmenistan	3,830	999	4,829	5,977	1,612	7,589	8,776	2,420	11,196	14,595	4,021	18,617
Uganda	319,521	395,792	715,313	408,668	516,834	925,502	506,017	664,610	1,170,628	580,779	781,205	1,361,984
Ukraine	131,527	66,274	197,801	109,081	65,712	174,794	100,401	70,370	170,771	114,618	84,672	199,289
United Republic of Tanzania	481,087	639,813	1,120,901	492,791	665,055	1,157,845	486,553	712,257	1,198,810	491,148	728,664	1,219,812
Uruguay	6,403	1,587	7,990	6,761	1,715	8,476	6,823	1,875	8,697	7,169	2,034	9,203
Uzbekistan	37,389	7,901	45,290	31,865	7,425	39,290	19,688	5,919	25,607	14,509	5,107	19,615
Venezuela	44,298	14,086	58,384	55,202	18,901	74,103	62,059	23,573	85,632	70,275	28,205	98,479
Viet Nam	132,857	32,683	165,539	155,375	51,099	20,6474	162,146	64,595	226,741	154,435	67,380	221,815
Yemen	2,286	356	2,641	3,191	627	3,817	4,389	1,061	5,449	6,006	1,719	7,725
Zambia	330,314	362,368	692,683	375,097	412,516	787,613	440,165	492,225	932,390	481,233	562,814	1,044,047
Zimbabwe	474,272	610,971	1,085,242	426,864	571,935	998,798	513,889	693,961	1,207,850	563,859	767,291	1,331,149
Total	12,645,082	9,935,656	22,580,737	13,209,925	10,526,348	23,736,273	14,532,582	12,071,583	26,604,165	16,250,332	13,612,564	29,862,897

Source: ILO calculations based on UNAIDS 2016 estimates.

**Table A-3. HIV prevalence in the labour force, country level**

Country	2005			2010			2015			2020		
	Men	Women	Total	Men	Women	Total	Men	Women	Total	Men	Women	Total
Afghanistan	0.03	0.01	0.03	0.04	0.02	0.04	0.05	0.02	0.05	0.07	0.03	0.06
Albania	0.04	0.02	0.03	0.07	0.03	0.05	0.09	0.04	0.07	0.13	0.06	0.10
Algeria	0.02	0.02	0.02	0.03	0.03	0.03	0.04	0.04	0.04	0.04	0.04	0.04
Angola	1.99	2.67	2.31	2.25	3.07	2.63	2.33	3.26	2.76	2.17	3.12	2.62
Argentina	0.51	0.23	0.40	0.58	0.26	0.45	0.60	0.28	0.47	0.61	0.30	0.48
Armenia	0.23	0.04	0.14	0.27	0.05	0.17	0.32	0.06	0.20	0.65	0.13	0.41
Australia	0.25	0.03	0.15	0.26	0.03	0.16	0.30	0.04	0.18	0.33	0.04	0.20
Austria	0.18	0.05	0.12	0.20	0.06	0.13	0.22	0.07	0.15	0.23	0.08	0.16
Azerbaijan	0.10	0.04	0.07	0.18	0.07	0.12	0.25	0.10	0.18	0.31	0.12	0.22
Bahamas	4.35	1.95	3.18	4.41	2.23	3.35	4.39	2.33	3.39	4.79	2.41	3.64
Bangladesh	0.01	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Barbados	1.25	0.52	0.91	1.65	0.71	1.21	1.92	0.91	1.45	2.04	1.09	1.60
Belarus	0.29	0.18	0.24	0.41	0.29	0.35	0.65	0.51	0.59	1.02	0.83	0.93
Belgium	0.34	0.15	0.25	0.42	0.20	0.32	0.52	0.26	0.40	0.61	0.31	0.47
Belize	2.20	1.97	2.12	1.94	1.81	1.89	1.80	1.67	1.75	1.89	1.74	1.83
Benin	1.44	1.65	1.54	1.20	1.49	1.34	1.10	1.43	1.26	1.04	1.39	1.21
Bhutan	0.32	0.12	0.24	0.52	0.20	0.39	0.66	0.27	0.50	0.80	0.33	0.60
Bolivia	0.40	0.16	0.29	0.41	0.17	0.30	0.42	0.18	0.31	0.43	0.19	0.32
Bosnia and Herzegovina	0.01	0.00	0.01	0.02	0.01	0.01	0.02	0.01	0.02	0.03	0.01	0.02
Botswana	22.86	29.93	26.17	22.47	30.61	26.26	22.20	32.06	26.75	21.66	32.60	26.67
Brazil	0.58	0.35	0.48	0.65	0.38	0.53	0.73	0.40	0.58	0.83	0.44	0.66
Brunei Darussalam	0.00	0.00	0.00	0.00	0.01	0.00	0.01	0.01	0.01	0.01	0.02	0.02
Bulgaria	0.04	0.01	0.03	0.07	0.02	0.05	0.11	0.03	0.07	0.18	0.04	0.12
Burkina Faso	1.13	1.58	1.34	0.84	1.18	1.00	0.70	1.06	0.87	0.60	0.94	0.76
Burundi	2.50	2.85	2.69	1.57	1.96	1.77	1.08	1.55	1.32	0.89	1.35	1.12
Côte d'Ivoire	4.35	5.79	4.88	3.63	4.98	4.14	3.09	4.53	3.65	2.77	4.22	3.35
Cambodia	1.29	1.04	1.17	0.94	0.89	0.91	0.72	0.76	0.74	0.55	0.64	0.59
Cameroon	4.57	5.99	5.22	4.43	5.94	5.12	4.09	5.91	4.93	3.97	5.92	4.88
Cape Verde	1.22	1.48	1.32	0.99	1.23	1.08	0.86	1.09	0.95	0.94	1.21	1.05
Central African Republic	5.92	8.00	6.89	4.44	6.16	5.24	3.52	4.90	4.16	3.22	4.60	3.87

Source: ILO calculations based on UNAIDS 2016 estimates.

**Table A-3. HIV prevalence in the labour force, country level**

Country	2005			2010			2015			2020		
	Men	Women	Total	Men	Women	Total	Men	Women	Total	Men	Women	Total
Chad	2.93	3.73	3.29	2.54	3.28	2.88	2.01	2.73	2.33	1.69	2.42	2.02
Chile	0.40	0.02	0.26	0.47	0.02	0.29	0.55	0.02	0.33	0.64	0.03	0.39
Colombia	0.46	0.20	0.35	0.59	0.23	0.43	0.72	0.26	0.52	0.88	0.28	0.61
Congo	3.65	4.68	4.15	2.82	4.04	3.41	2.35	3.97	3.14	2.06	3.93	2.96
Costa Rica	0.29	0.13	0.24	0.37	0.17	0.29	0.43	0.18	0.34	0.49	0.20	0.38
Croatia	0.07	0.01	0.05	0.09	0.02	0.06	0.11	0.02	0.07	0.13	0.03	0.09
Cuba	0.11	0.04	0.08	0.22	0.08	0.17	0.45	0.16	0.34	0.90	0.27	0.65
Cyprus	0.10	0.04	0.08	0.13	0.05	0.09	0.15	0.06	0.11	0.17	0.07	0.13
Czech Republic	0.04	0.01	0.03	0.06	0.01	0.04	0.11	0.02	0.07	0.17	0.03	0.11
Dem. People's Republic of Korea	0.02	0.01	0.01	0.02	0.01	0.01	0.02	0.01	0.02	0.02	0.01	0.02
Democratic Republic of the Congo	1.60	2.02	1.81	1.17	1.54	1.36	0.80	1.15	0.98	0.64	0.95	0.79
Denmark	0.20	0.08	0.14	0.24	0.09	0.17	0.27	0.10	0.19	0.29	0.11	0.20
Djibouti	2.37	2.43	2.39	1.70	1.90	1.77	1.32	1.62	1.43	1.23	1.56	1.35
Dominican Republic	1.99	1.80	1.92	1.44	1.38	1.41	1.11	1.08	1.10	1.00	0.93	0.97
Ecuador	0.46	0.20	0.36	0.45	0.19	0.35	0.43	0.19	0.33	0.40	0.19	0.31
Egypt	0.01	0.01	0.01	0.02	0.01	0.02	0.03	0.01	0.03	0.04	0.02	0.03
El Salvador	0.76	0.33	0.58	0.82	0.36	0.63	0.74	0.36	0.58	0.63	0.32	0.50
Equatorial Guinea	4.60	6.44	5.41	5.76	8.21	6.85	4.45	6.79	5.50	3.24	5.38	4.21
Eritrea	0.43	0.89	0.65	0.32	0.61	0.46	0.28	0.49	0.38	0.25	0.42	0.33
Estonia	0.97	0.37	0.67	0.99	0.39	0.69	1.04	0.42	0.73	1.16	0.49	0.84
Ethiopia	1.45	2.51	1.95	1.00	1.70	1.34	0.91	1.49	1.19	0.83	1.36	1.09
Fiji	0.08	0.03	0.06	0.11	0.05	0.09	0.18	0.08	0.15	0.28	0.13	0.23
Finland	0.10	0.04	0.07	0.13	0.05	0.09	0.16	0.07	0.12	0.19	0.08	0.14
Gabon	4.27	9.21	6.52	4.04	8.29	5.99	3.42	7.20	5.17	3.00	6.71	4.73
Gambia	1.81	2.37	2.08	1.72	2.30	2.00	1.49	2.13	1.80	1.35	1.98	1.65
Georgia	0.18	0.08	0.13	0.34	0.12	0.24	0.59	0.15	0.39	0.92	0.18	0.58
Ghana	2.16	3.09	2.61	1.73	2.58	2.14	1.43	2.26	1.82	1.21	1.99	1.58
Greece	0.28	0.07	0.20	0.32	0.08	0.22	0.37	0.09	0.25	0.45	0.11	0.30

Source: ILO calculations based on UNAIDS 2016 estimates.

**Table A-3. HIV prevalence in the labour force, country level**

Country	2005			2010			2015			2020		
	Men	Women	Total	Men	Women	Total	Men	Women	Total	Men	Women	Total
Guatemala	0.72	0.31	0.57	0.79	0.40	0.64	0.78	0.46	0.66	0.73	0.48	0.63
Guinea	1.50	2.37	1.89	1.53	2.39	1.91	1.49	2.39	1.90	1.41	2.33	1.83
Guinea-Bissau	3.55	4.56	4.02	3.82	5.01	4.38	3.46	4.82	4.10	3.15	4.68	3.88
Guyana	1.23	1.24	1.23	1.50	1.54	1.51	1.60	1.68	1.63	1.48	1.62	1.53
Haiti	4.48	5.61	5.01	2.91	3.93	3.39	1.81	2.68	2.22	1.33	2.07	1.69
Honduras	0.87	0.73	0.82	0.63	0.48	0.58	0.45	0.36	0.42	0.35	0.30	0.33
Hungary	0.09	0.01	0.05	0.11	0.01	0.07	0.14	0.02	0.08	0.20	0.02	0.12
Iceland	0.18	0.07	0.13	0.22	0.09	0.16	0.26	0.11	0.19	0.31	0.14	0.23
India	0.40	0.24	0.35	0.34	0.22	0.31	0.29	0.21	0.27	0.27	0.20	0.25
Indonesia	0.24	0.08	0.18	0.43	0.19	0.34	0.53	0.28	0.43	0.64	0.33	0.52
Islamic Republic of Iran	0.13	0.08	0.12	0.16	0.09	0.15	0.18	0.10	0.17	0.20	0.11	0.18
Ireland	0.26	0.11	0.20	0.30	0.13	0.23	0.33	0.15	0.25	0.38	0.17	0.28
Italy	0.40	0.17	0.31	0.47	0.20	0.36	0.53	0.23	0.40	0.57	0.25	0.44
Jamaica	2.52	1.45	2.04	2.37	1.36	1.91	2.25	1.35	1.83	2.33	1.36	1.88
Japan	0.03	0.01	0.02	0.04	0.01	0.03	0.06	0.01	0.04	0.07	0.01	0.05
Kazakhstan	0.14	0.03	0.09	0.20	0.06	0.13	0.32	0.14	0.23	0.54	0.27	0.41
Kenya	6.52	8.10	7.25	5.43	7.04	6.18	5.22	7.33	6.20	5.14	7.55	6.26
Kyrgyzstan	0.13	0.06	0.10	0.25	0.11	0.19	0.33	0.16	0.26	0.49	0.23	0.38
Lao People's Democratic Republic	0.27	0.10	0.18	0.35	0.15	0.25	0.35	0.17	0.26	0.34	0.18	0.26
Latvia	0.68	0.28	0.48	0.70	0.29	0.50	0.71	0.30	0.51	0.88	0.38	0.63
Lebanon	0.10	0.01	0.08	0.12	0.02	0.09	0.15	0.02	0.12	0.17	0.02	0.13
Lesotho	19.29	24.87	21.92	20.15	27.33	23.42	19.92	28.87	23.93	19.42	29.65	23.93
Liberia	2.03	2.62	2.32	1.36	1.86	1.60	1.00	1.47	1.22	0.84	1.29	1.05
Lithuania	0.19	0.02	0.10	0.19	0.02	0.10	0.19	0.02	0.11	0.22	0.03	0.12
Luxembourg	0.54	0.23	0.41	0.64	0.27	0.48	0.74	0.31	0.55	0.83	0.36	0.61
Madagascar	0.53	0.47	0.50	0.38	0.33	0.36	0.40	0.29	0.35	0.56	0.35	0.46
Malawi	11.94	16.05	13.93	10.60	14.47	12.59	8.97	13.18	11.10	7.39	11.78	9.57
Malta	0.19	0.07	0.15	0.27	0.11	0.22	0.39	0.16	0.31	0.59	0.25	0.47
Mauritania	0.86	0.94	0.88	0.73	0.82	0.75	0.57	0.64	0.59	0.48	0.56	0.50

Source: ILO calculations based on UNAIDS 2016 estimates.

**Table A-3. HIV prevalence in the labour force, country level**

Country	2005			2010			2015			2020		
	Men	Women	Total	Men	Women	Total	Men	Women	Total	Men	Women	Total
Mauritius	1.96	0.49	1.43	1.72	0.50	1.26	1.41	0.48	1.05	1.22	0.48	0.93
Mexico	0.41	0.09	0.30	0.41	0.10	0.29	0.43	0.11	0.31	0.47	0.13	0.34
Mongolia	0.00	0.00	0.00	0.02	0.00	0.01	0.04	0.01	0.02	0.05	0.01	0.03
Morocco	0.12	0.08	0.11	0.15	0.09	0.13	0.15	0.08	0.13	0.17	0.08	0.14
Mozambique	8.48	10.23	9.43	9.43	11.82	10.70	9.23	12.28	10.83	8.42	11.82	10.18
Myanmar	1.20	0.45	0.83	1.01	0.46	0.74	0.87	0.46	0.67	0.91	0.48	0.70
Namibia	14.43	20.45	17.19	12.97	18.66	15.60	12.02	18.09	14.82	11.12	17.02	13.83
Nepal	0.43	0.18	0.31	0.35	0.17	0.26	0.24	0.14	0.19	0.19	0.12	0.16
Netherlands	0.31	0.06	0.20	0.36	0.07	0.23	0.40	0.08	0.26	0.44	0.09	0.28
New Zealand	0.14	0.04	0.09	0.16	0.05	0.11	0.19	0.05	0.12	0.22	0.06	0.14
Nicaragua	0.41	0.24	0.35	0.37	0.18	0.30	0.41	0.14	0.30	0.51	0.12	0.35
Niger	1.16	0.94	1.10	0.77	0.65	0.74	0.48	0.51	0.49	0.36	0.46	0.39
Nigeria	3.59	4.43	3.95	3.32	4.26	3.72	3.10	4.23	3.58	3.11	4.38	3.64
Norway	0.13	0.06	0.10	0.15	0.06	0.11	0.19	0.08	0.13	0.22	0.09	0.16
Oman	0.13	0.06	0.12	0.14	0.08	0.13	0.15	0.09	0.14	0.18	0.10	0.17
Pakistan	0.03	0.01	0.03	0.07	0.03	0.06	0.13	0.05	0.11	0.18	0.08	0.16
Panama	0.91	0.42	0.73	0.94	0.44	0.75	1.01	0.46	0.80	1.09	0.50	0.86
Papua New Guinea	0.82	1.05	0.93	0.75	0.99	0.86	0.72	1.00	0.86	0.72	1.01	0.86
Paraguay	0.57	0.25	0.44	0.59	0.25	0.46	0.57	0.26	0.44	0.54	0.24	0.42
Peru	0.52	0.22	0.40	0.47	0.20	0.35	0.49	0.20	0.36	0.47	0.20	0.34
Philippines	0.02	0.01	0.01	0.05	0.01	0.03	0.12	0.01	0.08	0.21	0.02	0.14
Poland	0.14	0.04	0.09	0.16	0.04	0.11	0.18	0.05	0.12	0.23	0.06	0.15
Portugal	0.68	0.30	0.50	0.73	0.33	0.54	0.73	0.35	0.55	0.79	0.38	0.60
Republic of Korea	0.05	0.02	0.04	0.07	0.03	0.05	0.09	0.04	0.07	0.11	0.05	0.08
Republic of Moldova	0.76	0.29	0.52	0.96	0.39	0.68	1.13	0.51	0.82	1.22	0.57	0.89
Romania	0.09	0.06	0.08	0.10	0.07	0.09	0.11	0.09	0.10	0.12	0.10	0.11
Rwanda	2.90	3.82	3.38	2.53	3.54	3.05	2.42	3.48	2.97	2.19	3.21	2.71
Senegal	0.75	0.95	0.84	0.60	0.85	0.71	0.41	0.72	0.55	0.33	0.59	0.44
Sierra Leone	1.45	1.72	1.59	1.48	1.83	1.66	1.23	1.66	1.45	1.07	1.54	1.30
Singapore	0.16	0.07	0.13	0.18	0.08	0.14	0.22	0.08	0.16	0.25	0.10	0.19
Slovakia	0.03	0.00	0.02	0.04	0.00	0.03	0.07	0.01	0.04	0.13	0.01	0.07

Source: ILO calculations based on UNAIDS 2016 estimates.



**Table A-3. HIV prevalence in the labour force, country level**

Country	2005			2010			2015			2020		
	Men	Women	Total	Men	Women	Total	Men	Women	Total	Men	Women	Total
Slovenia	0.07	0.01	0.04	0.09	0.01	0.05	0.12	0.01	0.07	0.15	0.02	0.09
Somalia	0.65	0.61	0.64	0.59	0.57	0.58	0.53	0.53	0.53	0.54	0.55	0.54
South Africa	20.81	26.17	23.16	18.39	25.38	21.38	18.84	28.01	22.74	19.30	30.20	23.90
Spain	0.73	0.22	0.52	0.73	0.22	0.50	0.68	0.21	0.47	0.64	0.20	0.44
Sri Lanka	0.01	0.01	0.01	0.03	0.01	0.02	0.04	0.02	0.03	0.06	0.03	0.05
Sudan	0.14	0.14	0.14	0.19	0.18	0.19	0.22	0.19	0.21	0.25	0.22	0.24
Suriname	1.36	1.31	1.34	1.31	1.26	1.29	1.23	1.16	1.20	1.24	1.18	1.21
Swaziland	23.42	27.34	24.98	24.33	30.77	26.88	25.77	34.79	29.32	25.60	36.53	29.85
Sweden	0.16	0.07	0.12	0.19	0.08	0.14	0.24	0.11	0.18	0.29	0.13	0.21
Tajikistan	0.37	0.18	0.29	0.50	0.22	0.37	0.55	0.27	0.42	0.57	0.33	0.46
TFYR Macedonia	0.01	0.00	0.01	0.02	0.01	0.01	0.02	0.01	0.02	0.03	0.01	0.02
Thailand	1.59	0.82	1.23	1.33	0.83	1.10	1.13	0.81	0.98	0.96	0.74	0.86
Togo	3.79	5.25	4.53	2.75	3.82	3.29	2.15	3.15	2.65	1.83	2.84	2.33
Trinidad and Tobago	1.30	0.90	1.12	1.29	1.06	1.19	1.22	1.16	1.19	1.16	1.17	1.17
Tunisia	0.02	0.01	0.02	0.04	0.01	0.03	0.05	0.02	0.04	0.06	0.03	0.05
Turkey	0.02	0.01	0.02	0.04	0.02	0.03	0.07	0.03	0.06	0.11	0.05	0.09
Turkmen- istan	0.33	0.13	0.25	0.46	0.19	0.36	0.61	0.26	0.48	0.95	0.41	0.74
Uganda	5.77	7.30	6.53	6.25	8.16	7.19	6.53	8.94	7.71	6.31	8.93	7.59
Ukraine	1.17	0.63	0.91	0.98	0.63	0.81	0.92	0.68	0.80	1.09	0.85	0.97
United Republic of Tanzania	5.20	6.91	6.06	4.63	6.30	5.46	3.93	5.89	4.90	3.39	5.20	4.28
Uruguay	0.75	0.23	0.52	0.75	0.24	0.52	0.74	0.25	0.52	0.75	0.26	0.53
Uzbekistan	0.62	0.19	0.44	0.46	0.16	0.34	0.25	0.12	0.20	0.17	0.09	0.14
Venezuela	0.62	0.30	0.49	0.70	0.37	0.57	0.72	0.40	0.59	0.75	0.42	0.62
Viet Nam	0.57	0.15	0.36	0.60	0.21	0.41	0.58	0.25	0.42	0.53	0.25	0.40
Yemen	0.06	0.03	0.05	0.07	0.04	0.06	0.08	0.05	0.07	0.09	0.07	0.08
Zambia	13.07	16.78	14.78	13.09	17.05	14.90	13.41	17.92	15.46	12.63	17.80	14.98
Zimbabwe	14.98	20.32	17.58	13.44	18.63	15.99	13.58	19.41	16.41	12.92	18.92	15.81

Source: ILO calculations based on UNAIDS 2016 estimates.

**Table A-4. HIV prevalence, group and global levels**

Country	Men				Women				Total			
	2005	2010	2015	2020	2005	2010	2015	2020	2005	2010	2015	2020
Prevalence by region												
AES	6.09	5.54	5.32	4.97	7.97	7.37	7.35	7.04	6.98	6.40	6.28	5.95
AP	0.35	0.33	0.31	0.30	0.18	0.18	0.19	0.19	0.29	0.28	0.27	0.26
AWC	2.73	2.32	1.93	1.71	3.52	3.08	2.72	2.49	3.10	2.67	2.29	2.07
EECA	0.37	0.40	0.46	0.58	0.18	0.21	0.25	0.33	0.29	0.32	0.38	0.48
LAC	0.50	0.56	0.63	0.72	0.11	0.12	0.12	0.14	0.33	0.37	0.41	0.47
MENA	0.08	0.09	0.10	0.11	0.07	0.08	0.08	0.09	0.08	0.09	0.10	0.11
WENA	0.54	0.58	0.62	0.66	0.16	0.18	0.20	0.21	0.37	0.40	0.43	0.46
Prevalence by income group												
Low	3.34	2.97	2.73	2.45	4.45	3.99	3.85	3.59	3.85	3.44	3.25	2.98
Lower Middle	0.64	0.61	0.59	0.59	0.77	0.81	0.84	0.86	0.69	0.68	0.67	0.68
Upper Middle	1.39	1.31	1.28	1.28	2.22	2.03	1.98	1.89	1.69	1.58	1.54	1.51
High	0.42	0.47	0.54	0.62	0.07	0.08	0.09	0.11	0.26	0.30	0.34	0.39
UNAIDS Fast Track countries												
	1.41	1.36	1.32	1.30	2.06	2.09	2.12	2.11	1.66	1.63	1.62	1.60
Global total												
	0.88	0.86	0.87	0.88	0.97	0.95	0.97	0.98	0.92	0.90	0.91	0.92

Source: ILO calculations based on UNAIDS 2016 estimates.

## (2) Labour force deaths attributable to AIDS

**Table A-5. Labour force deaths attributable to AIDS, country level**

Country	2005			2010			2015			2020		
	Men	Women	Total	Men	Women	Total	Men	Women	Total	Men	Women	Total
Afghanistan	103	6	109	145	10	155	210	16	226	114	8	123
Albania	14	4	18	15	4	19	16	5	21	13	3	16
Algeria	99	10	109	61	9	70	58	7	65	37	5	42
Angola	3,157	3,596	6,753	3,716	3,882	7,598	4,128	3,493	7,620	2,308	1,976	4,284
Argentina	1133	344	1476	809	251	1060	1769	289	2058	1465	281	1746
Armenia	51	9	60	95	14	109	96	5	101	123	5	128
Australia	324	25	348	271	22	293	133	11	144	137	11	148
Austria	91	18	109	84	18	102	105	18	124	99	24	123
Azerbaijan	85	27	112	146	52	198	191	85	276	170	61	231
Bahamas	205	52	257	224	37	261	196	83	279	144	72	216
Bangladesh	187	33	220	426	97	523	553	172	725	582	234	816
Barbados	22	8	30	30	7	37	52	6	58	70	12	82
Belarus	240	140	379	373	264	638	447	278	725	268	184	453
Belgium	151	51	202	139	41	180	123	40	162	97	32	129
Belize	36	19	55	54	27	80	57	28	85	16	8	24
Benin	1542	1388	2929	792	723	1514	926	993	1919	291	257	548
Bhutan	15	3	19	47	11	58	73	11	84	74	22	96
Bolivia	624	178	802	533	167	700	499	146	645	358	134	492
Bosnia and Herzegovina	3	1	3	4	1	6	3	1	4	5	2	7
Botswana	3,849	4,011	7,860	2,341	1,681	4,022	1,683	838	2521	900	559	1,459
Brazil	6,630	2,678	9,308	12,764	5,177	17,941	8,655	3,370	12,024	4,321	1,654	5,975
Brunei Darussalam	0	0	0	0	0	0	0	0	0	0	0	0
Bulgaria	42	9	51	38	7	45	67	14	81	42	8	51
Burkina Faso	3,408	4,332	7,740	1,628	2,080	3,707	1,639	1,040	2,679	664	644	1,308
Burundi	3,007	3,176	6,183	2,247	2,444	4,691	1,399	976	2,375	355	335	690
Cambodia	4,498	2,550	7,047	1,654	1,037	2,691	952	681	1,633	1,030	711	1,741
Cameroon	9,571	10,415	19,986	8,380	9,633	18,013	12,716	10,812	23,529	4,662	4,777	9,439

Source: ILO calculations based on UNAIDS 2016 estimates.

**Table A-5. Labour force deaths attributable to AIDS, country level**

Country	2005			2010			2015			2020		
	Men	Women	Total	Men	Women	Total	Men	Women	Total	Men	Women	Total
Cape Verde	89	68	157	75	59	134	50	37	87	27	18	45
Central African Republic	4,581	5,378	9,959	3,147	3,922	7,069	2,652	3,379	6,031	745	666	1,411
Chad	3,457	3,474	6,931	2,522	2,307	4,829	2,951	2,586	5,536	952	679	1,631
Chile	398	8	406	491	12	503	337	9	346	274	9	283
Colombia	1,929	748	2,676	2,805	967	3,773	1,378	453	1,831	1,263	364	1,626
Congo	2,268	2,674	4,942	1,373	1,700	3,073	1,509	1,536	3,045	476	574	1,050
Costa Rica	80	19	99	116	31	147	97	61	157	96	32	128
Côte d'Ivoire	13,413	9,624	23,037	7,837	5,680	13,517	10,866	6,352	17,219	3,207	2,246	5,454
Croatia	16	2	18	19	1	20	21	1	22	15	2	17
Cuba	62	12	74	109	19	128	119	44	163	207	60	267
Cyprus	9	3	12	9	5	14	6	2	8	6	2	8
Czech Republic	31	3	35	38	4	42	16	2	18	23	3	25
Dem. People's Republic of Korea	15	4	19	20	7	27	31	9	39	31	10	41
Democratic Republic of the Congo	11,963	14,049	26,013	10,472	12,770	23,242	8,420	7,881	16,301	2,653	3,176	5,828
Denmark	50	14	64	39	10	49	38	12	50	38	11	48
Djibouti	267	114	381	238	124	362	196	114	310	46	28	74
Dominican Republic	3,532	1,897	5,429	2,541	1,230	3,771	1,599	797	2,396	566	325	890
Ecuador	1,051	289	1,340	650	206	857	694	107	801	376	125	501
Egypt	86	8	94	126	19	146	198	28	225	145	17	162
El Salvador	277	101	378	208	66	274	302	51	352	128	49	178
Equatorial Guinea	281	304	584	468	517	985	520	327	847	185	147	332
Eritrea	381	708	1089	137	412	549	71	242	313	48	87	136
Estonia	214	86	301	121	47	168	82	31	113	46	17	63
Ethiopia	23,492	34,629	58,121	8,253	13,205	21,458	5,583	9,870	15,454	3,211	3,850	7,061
Fiji	8	1	9	10	1	12	13	1	14	27	4	31
Finland	52	18	70	23	11	33	17	5	22	13	4	17

Source: ILO calculations based on UNAIDS 2016 estimates.

**Table A-5. Labour force deaths attributable to AIDS, country level**

Country	2005			2010			2015			2020		
	Men	Women	Total	Men	Women	Total	Men	Women	Total	Men	Women	Total
Gabon	404	977	1,380	443	1,155	1,598	326	529	855	84	104	189
Gambia	278	315	592	364	427	790	378	338	716	129	137	266
Georgia	72	33	105	83	39	122	148	24	172	251	21	273
Ghana	7,454	9,512	16,966	5,726	7,857	13,583	4,682	4,588	9,270	1,724	1,931	3,654
Greece	324	46	369	386	67	452	177	40	216	81	13	95
Guatemala	357	106	463	456	127	583	934	299	1233	410	163	573
Guinea	1,985	2,436	4,422	1,203	1,701	2,904	1,839	1,621	3,461	730	754	1,484
Guinea-Bissau	474	491	965	538	603	1,141	743	560	1,303	361	249	609
Guyana	82	33	115	52	20	72	54	25	79	28	20	48
Haiti	7,143	7,380	14,523	4,879	5,324	10,203	2,949	3,032	5,981	839	1,118	1,956
Honduras	1,122	520	1,642	765	299	1,064	562	197	759	281	108	389
Hungary	106	7	113	123	8	131	121	9	130	28	2	30
Iceland	3	1	4	4	1	5	4	1	6	4	1	5
India	86,928	19,817	106,746	68,100	11,641	79,741	41,104	5,661	46,765	23,967	3,909	27,876
Indonesia	3,650	556	4,206	11,533	2,273	13,806	21,884	5,754	27,638	22,614	8,091	30,704
Islamic Republic of Iran	994	153	1147	1647	209	1857	2054	277	2331	2435	348	2783
Ireland	119	35	154	103	32	135	45	12	57	40	12	52
Italy	774	198	972	425	113	538	352	95	447	271	75	346
Jamaica	1,169	549	1,718	830	283	1,114	827	206	1,033	200	127	327
Japan	359	43	402	258	32	290	50	5	55	37	4	42
Kazakhstan	244	40	284	354	58	413	420	52	471	306	173	479
Kenya	40,624	41,393	82,017	16,556	17,084	33,640	16,787	7,626	24,413	11,466	7,466	18,933
Kyrgyzstan	49	14	64	117	35	152	170	39	210	214	27	241
Lao People's Democratic Republic	122	34	156	240	49	289	283	46	330	352	119	470
Latvia	248	99	347	241	102	343	249	103	353	80	32	112
Lebanon	50	1	51	51	1	52	56	3	59	28	3	31
Lesotho	4,539	5,136	9,675	3,355	2,957	6,312	3,923	3,218	7,140	2,322	1,884	4,206
Liberia	865	970	1,834	744	857	1,601	643	595	1,238	185	187	372

Source: ILO calculations based on UNAIDS 2016 estimates.

**Table A-5. Labour force deaths attributable to AIDS, country level**

Country	2005			2010			2015			2020		
	Men	Women	Total	Men	Women	Total	Men	Women	Total	Men	Women	Total
Lithuania	105	10	115	96	5	101	71	2	73	65	6	71
Luxembourg	27	8	35	32	11	43	40	13	53	21	7	28
TFYR Macedonia	3	1	4	2	1	3	3	1	4	4	1	5
Madagascar	1,385	1,131	2,516	1,625	1,369	2,994	1,481	1,198	2,680	569	358	927
Malawi	25,526	30,115	55,642	16,746	18,073	34,819	11,218	9,852	21,070	9,159	6,467	15,627
Malaysia	7,145	92	7,236	6,774	169	6,942	5,819	255	6,074	4,378	410	4,789
Maldives	1	0	2	1	0	2	1	0	2	1	0	1
Mali	2,022	1,385	3,408	1,400	906	2,306	2,181	1,134	3,315	936	442	1,379
Malta	9	1	10	9	2	11	13	3	16	7	1	8
Mauritania	346	118	464	351	127	477	368	147	515	111	38	149
Mauritius	404	49	453	472	69	541	300	52	352	107	19	126
Mexico	5,641	545	6,186	3,708	522	4,230	2,887	369	3,256	1,676	291	1,967
Mongolia	1	0	1	1	0	2	3	0	3	6	1	7
Morocco	227	87	314	498	110	608	572	77	649	188	40	228
Mozambique	17,324	22,942	40,266	18,117	21,485	39,602	17,758	13,645	31,403	11,400	10,513	21,913
Myanmar	10,741	3,293	14,035	10,400	3,775	14,175	6,641	1,997	8,638	2,856	1,560	4,416
Namibia	3,489	3,788	7,277	1,490	1,746	3,237	1,289	915	2,204	798	763	1,561
Nepal	1,150	417	1,567	1,605	585	2,189	1,480	489	1,969	343	124	467
Netherlands	382	37	419	287	27	313	332	15	347	247	35	282
New Zealand	37	8	44	25	8	33	34	14	47	20	4	24
Nicaragua	371	143	514	268	111	378	221	55	276	193	19	212
Niger	2311	764	3,075	2,047	597	2,644	1,790	490	2,280	464	186	651
Nigeria	57054	48,994	106,049	54,367	48,462	102,829	56,486	41,482	97,968	19,990	15,747	35,737
Norway	70	26	97	51	18	69	22	6	28	18	6	24
Oman	17	3	20	25	3	29	56	4	59	56	4	60
Pakistan	468	41	509	894	99	993	2,181	257	2,437	1,497	155	1,652
Panama	385	93	478	265	72	337	272	91	363	221	71	293
Papua New Guinea	629	682	1,311	439	493	932	280	247	527	172	122	294
Paraguay	486	125	611	405	100	505	519	127	646	396	116	513
Peru	2,490	788	3,278	1,224	448	1,672	919	403	1,322	490	214	703

Source: ILO calculations based on UNAIDS 2016 estimates.

**Table A-5. Labour force deaths attributable to AIDS, country level**

Country	2005			2010			2015			2020		
	Men	Women	Total	Men	Women	Total	Men	Women	Total	Men	Women	Total
Philippines	118	37	155	163	51	214	327	104	431	434	24	458
Poland	684	124	808	712	125	837	720	179	900	254	52	306
Portugal	380	122	502	565	222	787	368	141	509	218	82	300
Republic of Korea	134	31	165	139	29	168	148	31	179	140	26	165
Republic of Moldova	277	103	380	294	113	407	371	87	458	166	76	242
Romania	91	46	138	99	46	145	64	40	104	80	37	118
Rwanda	4,842	6,167	11,010	1,696	1,805	3,501	1,107	1,113	2,220	863	1,066	1,930
Senegal	930	899	1,829	775	356	1,131	871	671	1,542	301	312	614
Sierra Leone	554	605	1,159	773	852	1,624	1,014	754	1,768	283	259	542
Singapore	132	40	172	94	54	147	143	68	211	136	31	167
Slovakia	8	1	9	24	1	25	22	1	23	24	2	26
Slovenia	14	1	15	15	1	16	10	1	11	9	1	10
Somalia	709	298	1,007	757	348	1,105	755	350	1,105	527	246	773
South Africa	123,293	111,617	234,910	111,593	88,794	200,387	71,308	46,981	118,289	43,580	35,683	79,263
Spain	704	131	835	837	197	1,034	796	185	982	681	155	837
Sri Lanka	28	4	32	46	7	53	82	14	96	85	14	99
Sudan	470	178	647	668	252	920	1,285	438	1,723	536	186	722
Suriname	73	38	111	68	40	108	62	40	102	20	14	35
Swaziland	2,741	1,816	4,557	2,069	1,083	3,152	1,529	813	2,342	1,470	847	2,317
Sweden	206	75	281	92	32	125	40	12	52	41	13	54
Tajikistan	217	111	328	390	152	542	502	157	659	525	165	690
Thailand	24,735	5,620	30,354	14,193	3,231	17,424	9,485	3,031	12,516	8,054	3,133	11,188
Togo	2,824	3,899	6,723	2,473	3,556	6,029	2,193	1,939	4,132	726	832	1,558
Trinidad and Tobago	210	55	264	185	58	244	103	71	174	70	53	123
Tunisia	10	1	11	18	2	20	54	4	58	24	3	27
Turkey	142	17	159	232	39	271	223	31	255	288	39	327
Turkmenistan	153	37	190	309	79	388	486	132	618	729	204	933
Uganda	21,572	24,454	46,027	14,645	17,971	32,615	12,371	7,960	20,331	7,224	6,719	13,942
Ukraine	6,375	2,763	9,138	7,491	3,854	11,345	4,086	2,141	6,226	3,501	2,281	5,783

Source: ILO calculations based on UNAIDS 2016 estimates.

**Table A-5. Labour force deaths attributable to AIDS, country level**

Country	2005			2010			2015			2020		
	Men	Women	Total	Men	Women	Total	Men	Women	Total	Men	Women	Total
Uruguay	181	33	214	377	91	468	195	27	222	122	28	150
Uzbekistan	1,278	248	1,526	2,483	520	3,003	1,986	159	2,145	323	101	424
Venezuela	928	296	1,225	755	437	1,191	1,817	752	2,569	681	349	1,030
Viet Nam	7,061	1,392	8,453	5,598	1,333	6,931	6,695	1,495	8,190	7,416	3,118	10,534
Yemen	129	16	145	138	23	161	172	33	205	67	17	84
Zambia	19,812	21,673	41,485	8,888	9,532	18,420	7,539	5,901	13,439	7,661	6,524	14,184
Zimbabwe	38,617	48,693	87,310	17,321	21,736	39,057	11,597	11,438	23,035	7,261	8,134	15,395

Source: ILO calculations based on UNAIDS 2016 estimates.



**Table A-6. Deaths attributable to AIDS, group and global levels**

	Men				Women				Total			
	2005	2010	2015	2020	2005	2010	2015	2020	2005	2010	2015	2020
Deaths by region												
AES	374,417	253,630	188,943	116,531	411,490	254,296	136,409	99,686	785,907	507,925	325,352	216,217
AP	172,060	148,957	114,707	85,461	41,986	33,494	24,073	24,786	214,045	182,451	138,780	110,247
AWC	128,077	107,896	115,763	39,885	123,069	106,845	89,791	34,364	251,146	214,741	205,554	74,249
EECA	21,093	23,569	31,588	44,968	8,098	10,025	9,658	18,324	29,192	33,594	41,245	63,292
LAC	36,618	35,572	28,074	14,911	17,054	16,129	11,137	5,817	53,672	51,701	39,211	20,727
MENA	3,161	4,373	5,664	4,204	875	1,110	1,350	905	4,036	5,483	7,014	5,109
WENA	25,140	17,443	12,491	7,796	5,352	3,785	2,741	1,809	30,492	21,228	15,232	9,605
Deaths by income group												
High	41,255	32,638	40,351	49,288	11,097	10,090	10,844	17,776	52,352	42,728	51,195	67,065
Upper Middle	215,745	195,899	132,839	85,567	145,293	119,114	66,838	50,072	361,038	315,013	199,677	135,639
Lower Middle	281,173	222,591	209,836	120,977	182,983	130,405	103,017	63,193	464,156	352,996	312,853	184,170
Low	222,393	140,310	114,203	57,923	268,551	166,076	94,460	54,649	490,944	306,386	208,663	112,572
Deaths in UNAIDS Fast Track countries												
	651,613	510,060	425,543	271,499	550,824	385,038	243,296	167,910	1,202,438	895,098	668,839	439,408
Global total												
	760,567	591,438	497,229	313,755	607,924	425,685	275,159	185,691	1,368,490	1,017,123	772,388	499,446

Source: ILO calculations based on UNAIDS 2016 estimates.

8. Total values may differ from the sum of the rows due to rounding of decimals

### (3) Individuals fully unable to work due to AIDS

**Table A-7. Individuals fully unable to work due to AIDS symptoms, country level**

Country	Men				Women				Total			
	2005	2010	2015	2020	2005	2010	2015	2020	2005	2010	2015	2020
Afghanistan	27	36	51	6	2	3	4	1	28	39	55	7
Albania	3	2	0	0	1	1	1	0	4	2	1	0
Algeria	24	5	0	0	2	0	0	0	26	5	0	0
Angola	785	684	585	13	913	725	392	9	1,698	1,409	978	23
Argentina	4	5	169	89	1	0	1	0	5	5	170	89
Armenia	9	21	19	22	2	3	0	0	11	24	19	22
Australia	55	17	0	0	4	1	0	0	58	18	0	0
Austria	0	0	2	1	0	0	0	1	0	0	2	1
Azerbaijan	18	26	40	26	6	10	18	9	24	36	58	36
Bahamas	45	38	19	18	7	3	15	9	52	41	34	27
Bangladesh	60	132	165	172	10	28	47	68	70	160	212	241
Barbados	0	0	9	14	0	0	0	1	0	0	9	15
Belarus	51	83	86	9	23	38	31	6	74	120	117	15
Belgium	1	0	0	0	0	0	0	0	1	0	0	0
Belize	3	9	11	0	2	4	4	0	6	13	16	0
Benin	420	123	160	0	399	112	189	0	818	235	349	0
Bhutan	3	11	17	15	0	2	2	5	4	13	18	19
Bolivia	161	123	80	44	46	38	18	18	207	161	98	62
Bosnia and Herzegovina	0	0	0	1	0	0	0	0	0	1	0	1
Botswana	137	66	11	0	157	1	0	1	294	67	12	1
Brazil	923	2,830	512	35	310	1,064	208	21	1,233	3,893	720	56
Brunei Darussalam	0	0	0	0	0	0	0	0	0	0	0	0
Bulgaria	9	6	11	0	2	1	2	0	11	7	13	0
Burkina Faso	823	227	285	5	1062	332	40	5	1,885	559	325	10
Burundi	704	468	223	7	722	473	64	0	1,426	941	287	7
Cambodia	870	229	66	191	438	75	7	68	1,309	304	73	259
Cameroon	1,973	1,666	3,048	257	2,195	1,962	2,127	374	4,168	3,627	5,176	630
Cape Verde	20	16	6	0	13	13	5	0	33	29	11	1

Source: ILO calculations based on UNAIDS 2016 estimates.

**Table A-7. Individuals fully unable to work due to AIDS symptoms, country level**

Country	Men				Women				Total			
	2005	2010	2015	2020	2005	2010	2015	2020	2005	2010	2015	2020
Central African Republic	1,302	831	638	10	1,511	1,030	818	15	2,813	1,861	1,456	25
Chad	882	480	523	8	956	417	453	12	1,838	896	977	20
Chile	2	4	0	0	0	0	0	0	2	4	0	0
Colombia	354	601	14	9	156	209	1	1	510	810	15	10
Congo	518	245	377	0	623	325	346	0	1,140	570	723	1
Costa Rica	1	1	0	2	0	2	11	0	2	3	11	2
Côte d'Ivoire	3,367	52	2,740	1	2,362	20	932	2	5,729	72	3,672	3
Croatia	2	2	2	0	0	0	0	0	2	2	2	0
Cuba	0	0	0	0	0	0	0	0	0	0	1	1
Cyprus	1	1	0	0	0	1	0	0	2	2	0	0
Czech Republic	3	4	0	0	0	0	0	0	4	4	0	0
Dem. People's Republic of Korea	1	2	3	2	0	1	1	1	1	3	4	3
Democratic Republic of the Congo	2,824	2,124	1,650	26	3,498	2,698	1,130	46	6,321	4,822	2,780	72
Denmark	0	0	1	1	0	0	0	0	0	0	1	1
Djibouti	66	60	42	1	33	36	29	0	100	97	72	1
Dominican Republic	875	568	251	8	420	198	64	0	1,295	766	315	8
Ecuador	245	78	70	16	65	31	1	4	311	109	70	20
Egypt	20	21	27	1	2	4	4	0	22	25	32	1
El Salvador	3	4	40	1	8	1	1	0	11	4	41	1
Equatorial Guinea	70	111	90	1	69	115	36	2	139	226	126	3
Eritrea	93	14	1	0	196	84	37	0	289	98	38	0
Estonia	44	18	9	4	16	6	2	2	60	24	11	6
Ethiopia	6,662	250	331	37	9,900	842	1,440	46	16,562	1,092	1,771	83

Source: ILO calculations based on UNAIDS 2016 estimates.

**Table A-7. Individuals fully unable to work due to AIDS symptoms, country level**

Country	Men				Women				Total			
	2005	2010	2015	2020	2005	2010	2015	2020	2005	2010	2015	2020
Fiji	2	3	2	7	0	0	0	1	2	3	2	8
Finland	9	0	0	0	3	1	0	0	13	1	0	0
Gabon	18	72	29	1	150	240	41	2	169	312	70	3
Gambia	68	79	94	0	79	95	64	0	147	173	158	1
Georgia	13	9	22	49	7	5	2	2	19	15	24	50
Ghana	1,864	1,131	859	4	2,401	1,641	590	6	4,266	2,772	1,449	10
Greece	60	71	10	0	7	12	3	0	68	83	13	0
Guatemala	1	1	212	1	11	0	60	0	12	2	272	1
Guinea	495	137	398	0	628	269	269	0	1,123	406	667	1
Guinea-Bissau	122	104	163	17	128	124	81	0	249	229	244	17
Guyana	7	3	3	0	1	0	0	0	7	3	4	0
Haiti	1,778	1,162	556	34	1,801	1,163	451	39	3,579	2,324	1,006	73
Honduras	265	165	113	33	111	56	28	6	376	221	141	39
Hungary	23	24	18	0	1	1	1	0	24	26	19	1
Iceland	0	0	0	0	0	0	0	0	0	0	0	0
India	45,279	29,136	16,272	6,150	9,553	4,322	2,156	1,130	54,833	33,458	18,428	7,279
Indonesia	723	2,654	5,191	5,039	107	484	1,444	2,133	830	3,138	6,635	7,172
Islamic Republic of Iran	235	401	513	598	39	54	69	84	273	455	582	682
Ireland	24	9	0	1	7	3	0	0	31	12	0	2
Italy	57	27	14	5	12	6	3	1	68	33	17	6
Jamaica	241	160	168	2	92	39	19	1	333	199	187	3
Japan	73	11	0	0	8	1	0	0	81	12	0	0
Kazakhstan	50	78	88	27	5	8	2	21	55	86	90	47
Kenya	8,766	1,867	1,736	814	8,945	1,843	167	442	17,711	3,711	1,903	1,256
Kyrgyzstan	11	23	34	42	3	5	4	1	14	28	38	43
Lao People's Democratic Republic	22	53	47	85	4	5	3	27	26	58	51	112
Latvia	60	56	61	8	20	21	21	3	80	76	82	11
Lebanon	9	8	7	0	0	0	0	0	9	8	8	0

Source: ILO calculations based on UNAIDS 2016 estimates.

**Table A-7. Individuals fully unable to work due to AIDS symptoms, country level**

Country	Men				Women				Total			
	2005	2010	2015	2020	2005	2010	2015	2020	2005	2010	2015	2020
Lesotho	1,061	375	445	6	1,137	188	300	15	2,198	563	745	21
Liberia	213	150	156	0	252	178	125	0	465	328	280	0
Lithuania	21	23	15	13	1	1	0	1	22	24	15	14
Luxembourg	4	6	7	1	1	2	2	0	5	8	9	1
TFYR Macedonia	1	0	0	0	0	0	0	0	1	0	0	1
Madagascar	388	468	398	16	322	398	319	16	710	865	717	32
Malawi	6,791	2,226	1,063	512	7,969	1,885	610	246	14,760	4,111	1,673	758
Malaysia	2,066	1,901	1,553	1,246	1	12	27	101	2,067	1,913	1,580	1,348
Maldives	0	0	0	0	0	0	0	0	0	1	0	0
Mali	427	214	480	22	307	149	218	3	735	363	697	25
Malta	1	1	2	0	0	0	0	0	2	2	2	0
Mauritania	82	80	87	0	28	29	36	0	110	109	123	0
Mauritius	99	115	57	0	12	16	9	0	111	132	66	0
Mexico	1,169	445	101	1	103	66	9	0	1,272	511	111	1
Mongolia	0	0	0	0	0	0	0	0	0	0	0	1
Morocco	30	102	115	2	17	24	6	5	47	126	120	7
Mozambique	4,272	3,194	2,124	236	5,867	3,307	273	38	10,139	6,501	2,396	274
Myanmar	2,507	2,341	912	49	766	621	76	38	3,273	2,962	988	87
Namibia	618	10	63	0	609	8	9	0	1,227	18	72	1
Nepal	301	417	401	0	104	129	77	0	405	546	479	1
Netherlands	27	19	37	17	0	0	0	2	27	19	37	19
New Zealand	0	0	3	0	0	1	2	0	0	1	5	0
Nicaragua	95	60	35	18	35	21	6	0	129	82	41	18
Niger	647	531	524	10	209	132	133	5	856	662	657	15
Nigeria	13,686	12,097	12,014	34	12,301	11,201	7,953	50	25,987	23,298	19,966	84
Norway	17	2	0	0	5	1	0	0	22	3	0	0
Oman	0	3	8	9	0	0	0	0	0	3	8	9
Pakistan	121	191	508	49	10	22	56	5	131	214	565	55
Panama	62	21	17	9	12	5	6	2	73	26	22	12

Source: ILO calculations based on UNAIDS 2016 estimates.

**Table A-7. Individuals fully unable to work due to AIDS symptoms, country level**

Country	Men				Women				Total			
	2005	2010	2015	2020	2005	2010	2015	2020	2005	2010	2015	2020
Papua New Guinea	165	76	13	2	183	88	10	1	348	163	22	2
Paraguay	108	71	107	60	25	13	20	13	133	84	127	73
Peru	633	5	120	0	198	30	18	0	831	35	138	0
Philippines	25	3	2	1	8	7	23	0	34	10	25	1
Poland	142	149	138	9	20	21	33	2	162	170	171	12
Portugal	21	99	13	8	3	35	5	4	24	134	18	12
Republic of Korea	1	0	0	1	0	0	0	0	1	0	0	1
Republic of Moldova	60	69	87	23	21	21	11	10	81	90	98	33
Romania	0	0	0	0	0	0	1	0	1	0	1	1
Rwanda	941	110	23	14	967	54	17	24	1,908	163	40	37
Senegal	254	156	166	0	240	0	142	1	494	156	308	2
Sierra Leone	122	135	236	0	142	161	93	0	264	297	329	1
Singapore	34	10	25	22	11	14	18	5	44	24	43	27
Slovakia	0	4	0	0	0	0	0	0	0	4	0	0
Slovenia	3	1	0	0	0	0	0	0	3	1	0	0
Somalia	193	197	198	122	82	92	92	54	275	289	290	176
South Africa	28,391	18,889	5,640	86	25,288	12,301	1,377	128	53,679	31,190	7,017	214
Spain	20	47	36	53	5	19	13	15	25	66	49	68
Sri Lanka	5	8	13	10	0	1	2	1	5	9	16	11
Sudan	110	134	297	13	45	53	109	7	155	187	406	20
Suriname	10	7	4	0	6	5	3	0	16	12	7	0
Swaziland	475	159	7	2	351	34	1	0	827	193	8	2
Sweden	44	11	0	0	15	3	0	0	59	14	0	0
Tajikistan	50	94	127	132	24	33	33	35	74	127	160	167
Thailand	4,631	2,888	1,348	1,522	68	0	102	295	4,698	2,888	1,450	1,817
Togo	634	414	545	0	927	686	243	1	1,561	1,100	788	1
Trinidad and Tobago	27	32	7	3	0	2	5	2	27	34	12	5

Source: ILO calculations based on UNAIDS 2016 estimates.

**Table A-7. Individuals fully unable to work due to AIDS symptoms, country level**

Country	Men				Women				Total			
	2005	2010	2015	2020	2005	2010	2015	2020	2005	2010	2015	2020
Tunisia	0	1	11	0	0	0	1	0	0	1	12	0
Turkey	28	50	1	2	3	9	0	0	31	59	1	2
Turkmenistan	37	80	131	194	8	19	32	48	44	98	163	242
Uganda	3,809	1,997	1,023	27	4,331	2,722	89	11	8,140	4,719	1,112	38
Ukraine	1,409	1,709	988	788	527	780	477	447	1,937	2,489	1,465	1,236
United Republic of Tanzania	10,440	3,682	2,259	9	13,337	4,230	64	10	23,777	7,912	2,323	19
Uruguay	28	79	9	0	0	19	0	0	28	98	9	0
Uzbekistan	287	680	531	32	49	118	16	13	336	798	547	46
Venezuela	4	49	31	2	12	25	131	0	15	74	162	2
Viet Nam	1,936	800	1,117	1,,684	458	82	173	807	2,393	882	1,291	2,490
Yemen	32	24	35	0	4	4	7	0	36	28	42	0
Zambia	4,346	572	276	113	5,207	824	50	132	9,554	1,395	326	245
Zimbabwe	11,218	1,673	1,263	190	13,720	1,129	678	261	24,937	2,802	1,941	451

Source: ILO calculations based on UNAIDS 2016 estimates.

**Table A-8. Individuals fully unable to work due to AIDS symptoms, global and group levels**

	Men				Women				Total			
	2005	2010	2015	2020	2005	2010	2015	2020	2005	2010	2015	2020
AES	89,998	36,820	17,528	2,082	99,948	31,063	5,895	1,380	189,946	67,883	23,423	3,463
AP	64,553	46,767	28,731	16,531	13,234	7,571	4,462	4,784	77,787	54,338	33,192	21,315
AWC	30,831	21,174	25,267	399	30,481	21,927	16,064	525	61,312	43,101	41,331	924
EECA	4,870	4,968	7,293	9,557	1,605	1,816	1,424	3,309	6,475	6,784	8,717	12,866
LAC	7,044	6,522	2,658	398	3,422	2,993	1,080	120	10,467	9,515	3,738	518
MENA	746	993	1,305	751	225	271	321	152	971	1,264	1,626	904
WENA	4,557	2,302	1,225	245	868	438	234	56	5,425	2,740	1,459	301
Low	57,467	21,675	15,834	1,502	69,854	22,967	8,077	905	127,321	44,642	23,911	2,407
Lower Middle	89,898	57,132	48,832	15,688	47,850	24,944	17,454	5,783	137,748	82,077	66,286	21,470
Upper Middle	47,503	36,040	12,617	4,160	30,176	16,783	2,711	847	77,679	52,822	15,328	5,007
High	7,732	4,699	6,725	8,614	1,905	1,384	1,235	2,791	9,636	6,083	7,960	11,406
UNAIDS Fast												
Track	164,105	102,149	70,392	25,133	119,417	57,533	24,429	8,979	283,523	159,682	94,821	34,112
Global total	202,599	119,546	84,007	29,964	149,785	66,078	29,478	10,326	352,384	185,624	113,485	40,290

ILO calculations based on UNAIDS 2016 estimates.



## (4) Individuals partially unable to work due to AIDS

**Table A-9. Individuals partially unable to work due to AIDS symptoms, country level**

Country	Men				Women				Total			
	2005	2010	2015	2020	2005	2010	2015	2020	2005	2010	2015	2020
Afghanistan	50	70	103	32	3	5	8	3	53	76	111	35
Albania	6	7	3	1	2	2	2	0	8	10	5	1
Algeria	48	23	1	0	5	2	0	0	52	25	1	0
Angola	1,557	1,706	1,703	124	1,843	1,898	1,466	95	3,400	3,604	3,169	219
Argentina	90	43	622	396	25	2	9	1	114	45	631	397
Armenia	24	49	46	58	4	8	2	1	29	56	48	59
Australia	223	92	0	5	17	7	0	0	239	99	0	5
Austria	7	0	12	6	1	0	0	3	8	0	12	9
Azerbaijan	38	64	73	49	13	25	36	17	51	89	108	66
Bahamas	100	96	64	57	22	12	36	26	122	108	100	83
Bangladesh	88	183	198	209	16	45	62	78	104	228	260	287
Barbados	3	6	22	30	1	0	0	3	4	6	22	33
Belarus	114	187	213	59	55	98	103	39	169	284	316	98
Belgium	14	0	1	2	4	0	0	1	19	0	1	3
Belize	17	28	29	2	10	13	13	1	27	41	42	3
Benin	774	374	381	1	762	368	460	1	1,536	742	841	3
Bhutan	8	24	37	36	2	6	6	11	10	29	43	48
Bolivia	300	266	228	150	89	86	64	57	389	353	291	207
Bosnia and Herzegovina	0	2	1	2	0	1	1	1	0	2	2	3
Botswana	1,108	539	119	7	1,249	18	2	11	2,358	557	121	18
Brazil	3,213	5,481	2,801	323	1,236	2,129	1,119	181	4,449	7,610	3,919	504
Brunei Darussalam	0	0	0	0	0	0	0	0	0	0	0	0
Bulgaria	17	16	23	3	3	3	4	0	21	19	27	3
Burkina Faso	1,647	695	698	18	2,112	952	229	12	3,758	1,647	926	31
Burundi	1,465	1,083	551	42	1,656	1,271	321	0	3,121	2,354	872	42
Cambodia	1,855	747	240	337	1,124	389	56	181	2,979	1,136	296	519
Cameroon	4,550	4,430	5,995	857	5,037	5,126	5,190	1,206	9,587	9,555	11,184	2,062

Source: ILO calculations based on UNAIDS 2016 estimates.

**Table A-9. Individuals partially unable to work due to AIDS symptoms, country level**

Country	Men				Women				Total			
	2005	2010	2015	2020	2005	2010	2015	2020	2005	2010	2015	2020
Cape Verde	43	39	19	1	30	29	15	1	73	68	34	2
Central African Republic	2,314	1,705	1,304	50	2,725	2,104	1,649	70	5,039	3,809	2,952	120
Chad	1,716	1,419	1,298	38	1,890	1,409	1,282	47	3,606	2,828	2,581	85
Chile	31	45	0	0	0	1	0	0	32	46	0	0
Colombia	756	1,394	128	83	304	454	9	14	1,059	1,848	137	97
Congo	957	575	655	6	1,165	755	722	6	2,122	1,330	1,377	11
Costa Rica	18	10	2	13	4	12	26	2	22	22	28	15
Côte d'Ivoire	6,637	729	4,904	19	4,844	319	2,356	22	11,482	1,048	7,260	41
Croatia	10	9	8	3	1	0	0	1	12	9	8	4
Cuba	5	0	1	6	2	0	5	5	7	0	6	11
Cyprus	5	4	0	0	1	3	0	0	6	7	0	0
Czech Republic	12	20	0	0	1	2	0	0	14	22	0	0
Dem. People's Republic of Korea	4	8	11	9	1	3	4	4	5	10	15	13
Democratic Republic of the Congo	5,280	4,541	3,454	199	6,797	5,980	3,279	326	12,077	10,522	6,733	525
Denmark	5	0	7	6	2	0	2	1	7	0	9	7
Djibouti	129	115	85	2	69	72	59	1	199	187	144	3
Dominican Republic	1,721	1,265	627	69	848	577	243	3	2,569	1,842	870	72
Ecuador	513	306	257	80	141	104	8	23	654	410	265	103
Egypt	41	62	87	9	4	10	13	1	45	72	100	10
El Salvador	41	35	130	6	37	7	6	2	79	41	136	8
Equatorial Guinea	158	287	260	8	160	303	150	15	318	590	409	23
Eritrea	188	62	7	0	373	233	107	2	561	295	115	2
Estonia	90	59	32	15	32	21	11	6	122	80	43	21
Ethiopia	12,281	2,245	1,714	266	18,400	5,028	4,597	334	30,681	7,274	6,312	600
Fiji	4	6	6	14	0	1	0	2	4	7	6	16

Source: ILO calculations based on UNAIDS 2016 estimates.

**Table A-9. Individuals partially unable to work due to AIDS symptoms, country level**

Country	Men				Women				Total			
	2005	2010	2015	2020	2005	2010	2015	2020	2005	2010	2015	2020
Finland	25	0	0	0	9	4	0	0	34	4	0	0
Gabon	114	201	120	9	417	530	197	14	532	730	317	24
Gambia	146	178	187	3	174	223	174	4	320	401	360	7
Georgia	33	42	74	130	15	18	10	8	48	59	84	139
Ghana	3,405	2,472	1,928	42	4,469	3,528	1,807	62	7,874	6,000	3,735	104
Greece	133	139	45	3	18	23	11	1	151	162	55	4
Guatemala	35	0	498	13	51	0	150	3	85	0	649	16
Guinea	934	533	839	5	1,192	857	765	7	2,126	1,390	1,604	12
Guinea-Bissau	245	288	344	83	263	340	255	6	508	628	600	88
Guyana	29	14	16	1	7	1	3	0	36	16	19	1
Haiti	3,147	2,287	1,138	50	3,320	2,433	1,028	52	6,467	4,721	2,166	101
Honduras	547	361	246	90	237	126	69	14	784	487	315	104
Hungary	45	53	49	2	3	4	3	0	48	57	52	2
Iceland	0	0	0	0	0	0	0	0	0	0	0	0
India	43,621	32,521	19,450	9,273	10,313	5,632	2,657	1,739	53,934	38,153	22,107	11,012
Indonesia	2,039	7,055	11,785	12,039	333	1,568	3,632	4,842	2,372	8,623	15,417	16,881
Islamic Republic of Iran	508	811	1,019	1,186	80	106	139	169	589	917	1,158	1,355
Ireland	62	37	2	7	18	12	1	2	80	48	3	9
Italy	286	135	80	36	61	32	19	9	347	167	99	45
Jamaica	501	395	344	14	212	133	64	9	712	528	408	23
Japan	189	62	1	4	21	7	0	0	211	68	1	5
Kazakhstan	112	181	172	120	15	29	8	77	128	210	180	197
Kenya	17,207	6,043	6,266	3,453	18,120	6,551	1,058	1,397	35,327	12,594	7,323	4,850
Kyrgyzstan	24	59	90	111	7	16	18	7	31	75	109	117
Lao People's Democratic Republic	62	130	123	159	16	26	16	55	78	157	139	214
Latvia	109	109	113	33	37	40	41	12	147	149	154	45

Source: ILO calculations based on UNAIDS 2016 estimates.

**Table A-9. Individuals partially unable to work due to AIDS symptoms, country level**

Country	Men				Women				Total			
	2005	2010	2015	2020	2005	2010	2015	2020	2005	2010	2015	2020
Lebanon	23	24	23	1	0	1	1	1	23	25	24	2
Lesotho	2,196	1,261	1,471	68	2,442	895	1,178	117	4,638	2,156	2,649	185
Liberia	383	318	262	2	475	399	264	3	859	717	527	5
Lithuania	41	42	32	28	3	3	0	2	44	45	33	30
Luxembourg	12	15	16	4	3	5	6	2	15	20	22	6
TFYR Macedonia	1	1	1	2	0	0	0	0	1	1	2	2
Madagascar	773	815	716	81	658	707	586	75	1,431	1,522	1,302	157
Malawi	12,556	6,491	3,734	2,068	15,511	7,115	2,738	506	28,067	13,606	6,472	2,574
Malaysia	2,683	2,441	1,684	1,365	9	48	45	120	2,692	2,489	1,729	1,485
Maldives	1	1	0	0	0	0	0	0	1	1	1	1
Mali	899	590	1,022	137	658	418	566	28	1,557	1,007	1,587	165
Malta	4	4	5	0	1	1	1	0	5	5	6	0
Mauritania	170	181	167	2	61	70	70	1	230	250	237	3
Mauritius	198	219	127	0	24	32	23	0	222	251	149	0
Mexico	2,687	1,461	697	17	258	213	72	2	2,944	1,674	769	19
Mongolia	0	0	1	3	0	0	0	1	0	0	1	3
Morocco	118	263	273	13	49	62	29	16	167	325	302	29
Mozambique	8,413	7,890	4,742	515	12,075	8,543	739	106	20,488	16,433	5,481	621
Myanmar	6,134	5,985	3,238	391	1,941	2,031	585	265	8,075	8,016	3,823	656
Namibia	1,489	124	335	4	1,619	156	101	5	3,108	280	437	9
Nepal	661	909	754	5	245	352	238	4	906	1,261	992	10
Netherlands	152	110	136	74	4	0	1	10	156	110	136	84
New Zealand	3	0	12	1	1	5	7	0	4	5	19	2
Nicaragua	185	142	99	73	64	49	21	0	250	191	120	73
Niger	1,240	1,091	860	20	428	338	256	10	1,668	1,429	1,116	31
Nigeria	26,511	25,547	24,168	212	24,436	24,171	17,565	277	50,947	49,719	41,733	489
Norway	38	12	0	1	13	4	0	0	51	16	0	1
Oman	2	11	25	25	1	1	1	1	3	12	27	26
Pakistan	244	449	1,155	321	21	51	136	37	265	500	1,291	359
Panama	178	103	70	37	39	26	24	10	217	129	94	47
Papua New Guinea	330	250	74	14	377	301	68	8	707	551	142	22

Source: ILO calculations based on UNAIDS 2016 estimates.

**Table A-9. Individuals partially unable to work due to AIDS symptoms, country level**

Country	Men				Women				Total			
	2005	2010	2015	2020	2005	2010	2015	2020	2005	2010	2015	2020
Paraguay	235	222	258	170	58	51	59	43	293	273	317	213
Peru	1,238	89	436	0	388	179	59	0	1,625	267	494	0
Philippines	59	34	16	11	19	25	52	1	78	59	68	11
Poland	301	336	320	55	51	56	68	12	352	392	388	67
Portugal	154	298	75	46	33	110	28	19	188	408	103	64
Republic of Korea	12	0	2	6	4	0	1	2	16	0	3	9
Republic of Moldova	119	136	172	75	43	46	37	33	162	182	209	108
Romania	8	0	1	3	4	0	5	2	13	0	5	5
Rwanda	2,098	505	137	61	2,572	365	52	120	4,669	870	189	181
Senegal	525	474	394	6	508	0	323	11	1,033	474	717	18
Sierra Leone	267	370	440	2	335	476	323	5	602	847	764	7
Singapore	63	44	66	57	19	26	32	15	82	71	97	72
Slovakia	3	11	1	1	0	0	0	0	3	11	1	1
Slovenia	7	3	0	0	1	0	0	0	7	4	0	0
Somalia	360	373	362	269	158	179	176	131	518	552	538	400
South Africa	56,477	47,713	20,934	909	53,066	39,583	8,932	1,176	109,543	87,296	29,866	2,085
Spain	115	202	169	164	25	61	50	44	141	263	220	208
Sri Lanka	12	23	38	35	2	3	7	5	13	27	45	39
Sudan	231	362	618	104	94	140	227	51	326	503	845	155
Suriname	32	28	18	0	17	16	12	0	48	44	30	0
Swaziland	1,180	751	85	24	909	288	7	4	2,088	1,039	92	28
Sweden	93	38	0	0	33	13	0	0	126	51	0	0
Tajikistan	103	183	231	234	50	66	65	68	153	249	296	302
Thailand	9,973	6,628	3,335	2,621	659	1	492	649	10,631	6,629	3,827	3,269
Togo	1,385	1,079	988	6	2,005	1,682	791	12	3,390	2,761	1,779	19
Trinidad and Tobago	94	94	29	13	4	0	19	9	98	94	48	22
Tunisia	1	7	24	1	0	0	2	0	1	7	26	2
Turkey	68	125	9	14	9	22	1	2	77	146	10	17
Turkmenistan	76	150	238	355	17	36	60	90	94	187	297	445

Source: ILO calculations based on UNAIDS 2016 estimates.

**Table A-9. Individuals partially unable to work due to AIDS symptoms, country level**

Country	Men				Women				Total			
	2005	2010	2015	2020	2005	2010	2015	2020	2005	2010	2015	2020
Uganda	8,855	5,242	4,569	281	10,442	7,019	947	133	19,297	12,260	5,516	414
Ukraine	2,987	3,497	2,022	1,715	1,213	1,751	1,023	1,031	4,200	5,248	3,044	2,746
United Republic of Tanzania	18,766	9,574	7,484	101	24,259	10,868	731	115	43,025	20,442	8,215	215
Uruguay	98	168	49	0	6	37	0	0	104	205	49	0
Uzbekistan	656	1,262	909	122	120	244	66	42	776	1,506	975	164
Venezuela	86	222	257	18	100	132	325	4	186	353	583	22
Viet Nam	3,491	4,058	2,079	2,688	782	1,172	411	1,243	4,273	5,230	2,490	3,930
Yemen	60	62	85	1	8	11	18	1	68	74	103	2
Zambia	9,877	3,425	1,836	863	11,567	4,739	582	938	21,444	8,164	2,417	1,800
Zimbabwe	20,241	6,586	4,109	369	25,324	5,454	2,845	515	45,565	12,040	6,954	884

Source: ILO calculations based on UNAIDS 2016 estimates.

**Table A-10. Individuals partially unable to work due to AIDS symptoms, global and group levels**

	Men				Women				Total			
	2005	2010	2015	2020	2005	2010	2015	2020	2005	2010	2015	2020
AES	176,924	102,274	60,638	9,237	202,109	100,763	27,012	5,649	379,033	203,036	87,650	14,887
AP	83,220	74,757	49,508	31,309	19,257	15,746	9,748	9,836	102,477	90,504	59,256	41,145
AWC	60,300	48,114	50,686	1,728	60,945	50,377	38,686	2,146	121,245	98,491	89,372	3,874
EECA	9,681	11,718	16,233	21,367	3,337	4,436	4,200	7,635	13,018	16,154	20,433	29,002
LAC	15,898	14,563	9,068	1,711	7,480	6,794	3,444	463	23,378	21,357	12,511	2,174
MENA	1,571	2,185	2,704	1,643	472	589	674	376	2,043	2,774	3,378	2,019
WENA	11,736	7,240	4,475	1,401	2,379	1,468	894	309	14,116	8,708	5,368	1,710
Low	108,942	58,068	42,447	5,054	135,938	65,510	25,467	2,814	244,880	123,578	67,915	7,868
Lower Middle	135,030	103,572	92,009	33,635	89,574	60,048	40,386	13,663	224,604	163,620	132,395	47,298
Upper Middle	97,178	85,043	41,013	9,371	65,942	50,544	14,572	3,336	163,120	135,587	55,585	12,707
High	18,180	14,170	17,841	20,336	4,526	4,072	4,233	6,602	22,705	18,241	22,073	26,938
UNAIDS Fast												
Track	311,993	226,080	167,359	59,453	270,929	163,228	73,392	23,947	582,922	389,308	240,751	83,401
Global total	359,330	260,852	193,311	68,396	295,979	180,174	84,658	26,415	655,309	441,025	277,968	94,811

Source: ILO calculations based on UNAIDS 2016 estimates.

**(5) Impact 1****Table A-11. Lost earnings due to death and withdrawal from labour force, attributable to AIDS, in millions of 2010 \$PPP, global and group levels**

	2005	2010	2015	2020
AES	11,681	7,410	4,609	3,231
AP	1,812	1,717	1,652	1,464
AWC	1,416	1,338	1,422	477
EECA	311	504	715	1,291
LAC	524	600	452	273
MENA	28	42	55	49
WENA	1,168	811	588	391
Low	3,958	1,695	1,397	783
Lower Middle	4,085	2,725	2,635	1,754
Upper Middle	7,406	6,743	4,153	2,986
High	1,492	1,259	1,307	1,653
Fast Track	15,329	11,160	8,231	6,232
Total	16,940	12,422	9,493	7,176

Sources: UNAIDS and ILO GWR databases, ILO calculations.



**Table A-12. Lost earnings due to death and withdrawal from labour force, attributable to AIDS, in millions of 2010 \$PPP**

Country		Wages	Deaths	Fully unable	Lost earnings
Afghanistan	2005	1,815	109	28	249,114
	2010	2,579	155	39	500,290
	2015	2,793	226	55	784,938
	2020	3,103	123	7	401,186
Albania	2005	5,919	18	4	129,203
	2010	9,657	19	2	211,249
	2015	10,725	21	1	239,275
	2020	12,542	16	0	207,377
Algeria	2005	13,939	109	26	1,882,922
	2010	9,573	70	5	715,825
	2015	10,208	65	0	661,756
	2020	10,940	42	0	457,726
Angola	2005	5,088	6,753	1,698	42,992,734
	2010	7,594	7,598	1,409	68,404,547
	2015	8,027	7,620	978	69,016,407
	2020	8,460	4,284	23	36,438,787
Argentina	2005	15,475	1,476	5	22,926,529
	2010	18,659	1,060	5	19,875,966
	2015	19,047	2,058	170	42,431,443
	2020	20,775	1,746	89	38,126,344
Armenia	2005	4,448	60	11	318,512
	2010	6,866	109	24	909,245
	2015	9,765	101	19	1,175,237
	2020	11,028	128	22	1,654,003

Sources: UNAIDS and ILO GWR databases, ILO calculations.

**Table A-12. Lost earnings due to death and withdrawal from labour force, attributable to AIDS, in millions of 2010 \$PPP**

Country		Wages	Deaths	Fully unable	Lost earnings
Australia	2005	44,445	348	58	18,064,279
	2010	46,423	293	18	14,443,345
	2015	51,792	144	0	7,468,881
	2020	58,518	148	0	8,698,677
Austria	2005	41,414	109	0	4,530,861
	2010	45,312	102	0	4,615,915
	2015	46,256	124	2	5,802,394
	2020	50,602	123	1	6,306,540
Azerbaijan	2005	8,003	112	24	1,086,199
	2010	13,529	198	36	3,164,045
	2015	16,583	276	58	5,538,356
	2020	17,878	231	36	4,765,302
Bahamas	2005	25,074	257	52	7,737,408
	2010	22,614	261	41	6,830,465
	2015	21,405	279	34	6,697,363
	2020	23,989	216	27	5,836,297
Bangladesh	2005	2,561	220	70	744,483
	2010	3,053	523	160	2,085,632
	2015	3,527	725	212	3,303,184
	2020	4,645	816	241	4,907,151
Barbados	2005	15,943	30	0	475,007
	2010	16,230	37	0	608,553
	2015	16,278	58	9	1,104,675
	2020	18,275	82	15	1,762,843
Belarus	2005	11,646	379	74	5,278,279
	2010	16,862	638	120	12,780,848
	2015	17,894	725	117	15,061,954
	2020	19,420	453	15	9,082,456

Sources: UNAIDS and ILO GWR databases, ILO calculations.

**Table A-12. Lost earnings due to death and withdrawal from labour force, attributable to AIDS, in millions of 2010 \$PPP**

Country		Wages	Deaths	Fully unable	Lost earnings
Belgium	2005	37,828	202	1	7,672,631
	2010	41,524	180	0	7,490,285
	2015	42,167	162	0	6,851,119
	2020	46,352	129	0	5,974,766
Belize	2005	8,869	55	6	535,469
	2010	8,873	80	13	831,284
	2015	9,083	85	16	913,279
	2020	9,395	24	0	226,789
Benin	2005	2,037	2,929	818	7,633,366
	2010	2,134	1,514	235	3,731,931
	2015	2,396	1,919	349	5,435,781
	2020	2,766	548	0	1,514,593
Bhutan	2005	4,635	19	4	104,230
	2010	6,579	58	13	466,876
	2015	7,928	84	18	812,990
	2020	9,997	96	19	1,152,685
Bolivia	2005	5,783	802	207	5,833,168
	2010	6,660	700	161	5,735,510
	2015	8,045	645	98	5,975,807
	2020	9,140	492	62	5,063,011
Bosnia and Herzegovina	2005	15,295	3	0	49,251
	2010	20,394	6	1	133,171
	2015	21,040	4	0	87,104
	2020	23,550	7	1	186,395
Botswana	2005	15,072	7,860	294	122,894,343
	2010	16,519	4,022	67	67,543,564
	2015	19,025	2,521	12	48,187,641
	2020	22,099	1,459	1	32,260,411

Sources: UNAIDS and ILO GWR databases, ILO calculations.

**Table A-12. Lost earnings due to death and withdrawal from labour force, attributable to AIDS, in millions of 2010 \$PPP**

Country		Wages	Deaths	Fully unable	Lost earnings
Brazil	2005	12,345	9,308	1,233	130,127,242
	2010	12,866	17,941	3,893	280,933,835
	2015	13,132	12,024	720	167,357,857
	2020	14,083	5,975	56	84,922,214
Brunei Darussalam	2005	41,761	0	0	3,550
	2010	40,546	0	0	6,082
	2015	37,549	0	0	6,383
	2020	41,986	0	0	12,176
Bulgaria	2005	7,315	51	11	454,479
	2010	11,747	45	7	611,868
	2015	14,895	81	13	1,403,216
	2020	18,107	51	0	927,076
Burkina Faso	2005	2,013	7,740	1,885	19,374,475
	2010	2,329	3,707	559	9,933,462
	2015	2,535	2,679	325	7,612,371
	2020	3,032	1,308	10	3,996,749
Burundi	2005	2,209	6,183	1,426	16,806,265
	2010	2,330	4,691	941	13,120,459
	2015	2,283	2,375	287	6,078,350
	2020	2,368	690	7	1,650,543
Cambodia	2005	2,100	7,047	1,309	17,552,647
	2010	2,691	2,691	304	8,059,923
	2015	3,510	1,633	73	5,988,308
	2020	4,321	1,741	259	8,645,580

Sources: UNAIDS and ILO GWR databases, ILO calculations.

**Table A-12. Lost earnings due to death and withdrawal from labour force, attributable to AIDS, in millions of 2010 \$PPP**

Country		Wages	Deaths	Fully unable	Lost earnings
Cameroon	2005	6,869	19,986	4,168	165,907,754
	2010	6,916	18,013	3,627	149,671,874
	2015	7,792	23,529	5,176	223,668,430
	2020	8,748	9,439	630	88,090,364
Cape Verde	2005	3,088	157	33	589,208
	2010	3,876	134	29	629,508
	2015	3,936	87	11	385,709
	2020	4,585	45	1	208,769
Central African Republic	2005	1,454	9,959	2,813	18,566,086
	2010	1,581	7,069	1,861	14,119,964
	2015	1,115	6,031	1,456	8,350,983
	2020	1,255	1,411	25	1,801,613
Chad	2005	2,132	6,931	1,838	18,695,342
	2010	2,289	4,829	896	13,104,132
	2015	2,434	5,536	977	15,853,739
	2020	2,748	1,631	20	4,537,011
Chile	2005	17,297	406	2	7,057,876
	2010	19,773	503	4	10,019,038
	2015	22,920	346	0	7,928,997
	2020	25,239	283	0	7,133,231
Colombia	2005	9,366	2,676	510	29,837,275
	2010	11,283	3,773	810	51,701,757
	2015	13,441	1,831	15	24,816,429
	2020	15,134	1,626	10	24,772,279

Sources: UNAIDS and ILO GWR databases, ILO calculations.

**Table A-12. Lost earnings due to death and withdrawal from labour force, attributable to AIDS, in millions of 2010 \$PPP**

Country		Wages	Deaths	Fully unable	Lost earnings
Congo	2005	7,907	4,942	1,140	48,094,070
	2010	6,571	3,073	570	23,939,398
	2015	7,023	3,045	723	26,460,066
	2020	8,219	1,050	1	8,639,901
Costa Rica	2005	13,729	99	2	1,378,960
	2010	15,221	147	3	2,283,951
	2015	17,001	157	11	2,861,943
	2020	19,547	128	2	2,543,390
Côte d'Ivoire	2005	3,767	23,037	5,729	108,351,880
	2010	3,778	13,517	72	51,336,010
	2015	4,565	17,219	3,672	95,370,840
	2020	5,456	5,454	3	29,767,344
Croatia	2005	20,571	18	2	429,938
	2010	24,326	20	2	535,406
	2015	25,707	22	2	611,951
	2020	29,658	17	0	516,349
Cuba	2005	14,825	74	0	1,101,599
	2010	17,700	128	0	2,266,223
	2015	20,643	163	1	3,378,796
	2020	21,865	267	1	5,865,274
Cyprus	2005	29,103	12	2	398,998
	2010	33,557	14	2	521,477
	2015	32,077	8	0	264,960
	2020	36,934	8	0	280,700
Czech Republic	2005	20,059	35	4	765,863
	2010	24,126	42	4	1,127,028
	2015	24,489	18	0	441,782
	2020	27,730	25	0	706,137

Sources: UNAIDS and ILO GWR databases, ILO calculations.

**Table A-12. Lost earnings due to death and withdrawal from labour force, attributable to AIDS, in millions of 2010 \$PPP**

Country		Wages	Deaths	Fully unable	Lost earnings
Dem. People's Republic of Korea	2005	2,173	19	1	42,690
	2010	2,300	27	3	68,745
	2015	2,173	39	4	94,907
	2020	2,396	41	3	106,787
Democratic Republic of the Congo	2005	5,892	26,013	6,321	190,498,448
	2010	6,546	23,242	4,822	183,697,981
	2015	8,061	16,301	2,780	153,815,899
	2020	8,568	5,828	72	50,552,822
Denmark	2005	51,840	64	0	3,335,128
	2010	59,037	49	0	2,891,636
	2015	61,249	50	1	3,128,911
	2020	66,429	48	1	3,272,944
Djibouti	2005	3,304	381	100	1,589,458
	2010	3,852	362	97	1,766,716
	2015	4,589	310	72	1,749,053
	2020	5,328	74	1	396,467
Dominican Republic	2005	7,770	5,429	1,295	52,241,652
	2010	7,950	3,771	766	36,067,248
	2015	8,429	2,396	315	22,853,565
	2020	10,441	890	8	9,378,770
Ecuador	2005	10,640	1,340	311	17,563,777
	2010	10,625	857	109	10,266,268
	2015	12,244	801	70	10,666,415
	2020	12,537	501	20	6,538,895
Egypt	2005	12,280	94	22	1,424,583
	2010	15,686	146	25	2,680,857
	2015	16,065	225	32	4,128,957
	2020	19,610	162	1	3,201,392

Sources: UNAIDS and ILO GWR databases, ILO calculations.

**Table A-12. Lost earnings due to death and withdrawal from labour force, attributable to AIDS, in millions of 2010 \$PPP**

Country		Wages	Deaths	Fully unable	Lost earnings
El Salvador	2005	7,262	378	11	2,829,205
	2010	6,850	274	4	1,909,580
	2015	7,361	352	41	2,891,389
	2020	8,452	178	1	1,510,923
Equatorial Guinea	2005	19,606	584	139	14,188,626
	2010	21,076	985	226	25,531,029
	2015	17,023	847	126	16,568,606
	2020	18,265	332	3	6,116,064
Eritrea	2005	4,442	1,089	289	6,121,663
	2010	3,862	549	98	2,497,549
	2015	3,951	313	38	1,386,643
	2020	4,066	136	0	552,344
Estonia	2005	13,816	301	60	4,989,101
	2010	18,985	168	24	3,645,087
	2015	22,567	113	11	2,793,039
	2020	25,732	63	6	1,785,011
Ethiopia	2005	1,719	58,121	16,562	128,413,118
	2010	2,521	21,458	1,092	56,850,480
	2015	3,599	15,454	1,771	61,997,111
	2020	4,791	7,061	83	34,229,979
Fiji	2005	7,427	9	2	79,614
	2010	7,352	12	3	108,846
	2015	8,756	14	2	135,415
	2020	9,937	31	8	385,166

Sources: UNAIDS and ILO GWR databases, ILO calculations.



**Table A-12. Lost earnings due to death and withdrawal from labour force, attributable to AIDS, in millions of 2010 \$PPP**

Country		Wages	Deaths	Fully unable	Lost earnings
Finland	2005	35,159	70	13	2,889,519
	2010	41,425	33	1	1,400,582
	2015	41,533	22	0	927,421
	2020	45,771	17	0	785,652
Gabon	2005	12,107	1,380	169	18,755,286
	2010	10,934	1,598	312	20,879,646
	2015	11,988	855	70	11,088,718
	2020	13,697	189	3	2,621,445
Gambia	2005	2,456	592	147	1,815,200
	2010	2,633	790	173	2,537,682
	2015	2,526	716	158	2,207,524
	2020	2,690	266	1	716,770
Georgia	2005	4,332	105	19	540,993
	2010	9,139	122	15	1,249,515
	2015	12,249	172	24	2,405,266
	2020	14,636	273	50	4,725,542
Ghana	2005	6,434	16,966	4,266	136,615,630
	2010	4,916	13,583	2,772	80,402,212
	2015	6,315	9,270	1,449	67,688,563
	2020	7,507	3,654	10	27,505,947
Greece	2005	28,344	369	68	12,382,507
	2010	28,465	452	83	15,236,652
	2015	23,955	216	13	5,492,295
	2020	27,403	95	0	2,603,039

Sources: UNAIDS and ILO GWR databases, ILO calculations.

**Table A-12. Lost earnings due to death and withdrawal from labour force, attributable to AIDS, in millions of 2010 \$PPP**

Country		Wages	Deaths	Fully unable	Lost earnings
Guatemala	2005	7,693	463	12	3,653,523
	2010	8,239	583	2	4,817,329
	2015	6,368	1,233	272	9,583,325
	2020	7,021	573	1	4,034,738
Guinea	2005	2,020	4,422	1,123	11,202,427
	2010	2,016	2,904	406	6,671,116
	2015	1,998	3,461	667	8,247,567
	2020	2,243	1,484	1	3,330,668
Guinea-Bissau	2005	2,191	965	249	2,660,471
	2010	2,286	1,141	229	3,130,898
	2015	2,337	1,303	244	3,614,239
	2020	2,836	609	17	1,777,387
Guyana	2005	5,935	115	7	726,557
	2010	7,386	72	3	552,714
	2015	8,939	79	4	737,802
	2020	12,374	48	0	595,312
Haiti	2005	2,528	14,523	3,579	45,770,164
	2010	2,431	10,203	2,324	30,459,310
	2015	2,673	5,981	1,006	18,676,877
	2020	2,955	1,956	73	5,996,647
Honduras	2005	5,393	1,642	376	10,885,385
	2010	6,060	1,064	221	7,788,222
	2015	6,579	759	141	5,919,574
	2020	7,919	389	39	3,392,615
Hungary	2005	16,299	113	24	2,238,239
	2010	19,659	131	26	3,079,843
	2015	21,373	130	19	3,183,618
	2020	24,759	30	1	747,842

Sources: UNAIDS and ILO GWR databases, ILO calculations.

**Table A-12. Lost earnings due to death and withdrawal from labour force, attributable to AIDS, in millions of 2010 \$PPP**

Country		Wages	Deaths	Fully unable	Lost earnings
Iceland	2005	34,875	4	0	139,500
	2010	32,135	5	0	158,104
	2015	35,330	6	0	196,965
	2020	41,634	5	0	201,302
India	2005	5,176	106,746	54,833	836,349,849
	2010	5,408	79,741	33,458	612,133,932
	2015	7,064	46,765	18,428	460,538,428
	2020	8,965	27,876	7,279	315,170,647
Indonesia	2005	5,729	4,206	830	28,852,153
	2010	5,045	13,806	3,138	85,487,311
	2015	5,763	27,638	6,635	197,527,127
	2020	6,905	30,704	7,172	261,556,521
Iran (Islamic Republic of)	2005	10,189	1,147	273	14,472,865
	2010	9,493	1,857	455	21,949,801
	2015	8,713	2,331	582	25,376,303
	2020	10,205	2,783	682	35,364,528
Ireland	2005	46,560	154	31	8,596,375
	2010	43,460	135	12	6,384,880
	2015	42,542	57	0	2,437,855
	2020	49,236	52	2	2,629,694
Italy	2005	30,164	972	68	31,372,536
	2010	33,656	538	33	19,216,697
	2015	33,671	447	17	15,615,900
	2020	36,777	346	6	12,934,440

Sources: UNAIDS and ILO GWR databases, ILO calculations.

**Table A-12. Lost earnings due to death and withdrawal from labour force, attributable to AIDS, in millions of 2010 \$PPP**

Country		Wages	Deaths	Fully unable	Lost earnings
Jamaica	2005	17,825	1,718	333	36,557,257
	2010	15,198	1,114	199	19,942,915
	2015	14,038	1,033	187	17,122,912
	2020	15,921	327	3	5,259,249
Japan	2005	34,414	402	81	16,638,452
	2010	35,437	290	12	10,684,680
	2015	36,625	55	0	2,013,809
	2020	40,572	42	0	1,713,965
Kazakhstan	2005	13,062	284	55	4,435,875
	2010	14,003	413	86	6,974,740
	2015	16,390	471	90	9,199,628
	2020	18,084	479	47	9,518,140
Kenya	2005	16,666	82,017	17,711	1,662,028,600
	2010	12,778	33,640	3,711	477,256,602
	2015	12,928	24,413	1,903	340,196,105
	2020	15,581	18,933	1,256	314,570,836
Kyrgyzstan	2005	3,802	64	14	295,148
	2010	5,951	152	28	1,072,652
	2015	6,905	210	38	1,713,155
	2020	7,910	241	43	2,244,859
Lao People's Democratic Republic	2005	3,674	156	26	665,630
	2010	4,976	289	58	1,725,982
	2015	6,788	330	51	2,580,407
	2020	7,956	470	112	4,630,454
Latvia	2005	10,755	347	80	4,591,733
	2010	15,949	343	76	6,690,138
	2015	18,643	353	82	8,101,024
	2020	22,040	112	11	2,712,089

Sources: UNAIDS and ILO GWR databases, ILO calculations.

**Table A-12. Lost earnings due to death and withdrawal from labour force, attributable to AIDS, in millions of 2010 \$PPP**

Country		Wages	Deaths	Fully unable	Lost earnings
Lebanon	2005	12,896	51	9	769,229
	2010	17,107	52	8	1,030,372
	2015	13,751	59	8	916,250
	2020	17,767	31	0	553,535
Lesotho	2005	4,533	9,675	2,198	53,816,810
	2010	3,278	6,312	563	22,533,789
	2015	5,215	7,140	745	41,120,408
	2020	6,560	4,206	21	27,727,660
Liberia	2005	1,112	1,834	465	2,555,823
	2010	1,301	1,601	328	2,508,726
	2015	1,460	1,238	280	2,216,251
	2020	1,663	372	0	619,177
Lithuania	2005	39,526	115	22	5,434,215
	2010	54,166	101	24	6,758,833
	2015	62,570	73	15	5,507,424
	2020	74,642	71	14	6,303,487
Luxembourg	2005	51,708	35	5	2,052,026
	2010	56,000	43	8	2,852,900
	2015	58,955	53	9	3,669,390
	2020	65,181	28	1	1,898,410
Macedonia	2005	14,900	4	1	78,897
	2010	19,801	3	0	60,987
	2015	18,939	4	0	86,266
	2020	22,547	5	1	131,339
Madagascar	2005	2,502	2,516	710	8,072,629
	2010	2,236	2,994	865	8,630,988
	2015	2,221	2,680	717	7,543,102
	2020	2,507	927	32	2,403,905

Sources: UNAIDS and ILO GWR databases, ILO calculations.

**Table A-12. Lost earnings due to death and withdrawal from labour force, attributable to AIDS, in millions of 2010 \$PPP**

Country		Wages	Deaths	Fully unable	Lost earnings
Malawi	2005	5,931	55,642	14,760	417,547,904
	2010	4,853	34,819	4,111	188,926,555
	2015	5,115	21,070	1,673	116,326,048
	2020	5,653	15,627	758	92,617,873
Malaysia	2005	19,554	7,236	2,067	181,920,045
	2010	19,059	6,942	1,913	168,763,043
	2015	23,463	6,074	1,580	179,574,575
	2020	27,003	4,789	1,348	165,699,658
Maldives	2005	7,461	2	0	17,123
	2010	9,854	2	1	24,240
	2015	11,240	2	0	21,919
	2020	14,190	1	0	26,536
					0
Mali	2005	2,739	3,408	735	11,343,623
	2010	2,912	2,306	363	7,770,420
	2015	2,985	3,315	697	11,977,331
	2020	3,479	1,379	25	4,882,129
Malta	2005	23,850	10	2	283,821
	2010	25,836	11	2	323,074
	2015	25,982	16	2	468,068
	2020	31,025	8	0	247,110
Mauritania	2005	4,016	464	110	2,307,385
	2010	4,462	477	109	2,616,656
	2015	4,845	515	123	3,094,011
	2020	5,725	149	0	853,742
Mauritius	2005	11,939	453	111	6,736,916
	2010	14,187	541	132	9,540,185
	2015	18,099	352	66	7,560,085
	2020	21,018	126	0	2,653,273

Sources: UNAIDS and ILO GWR databases, ILO calculations.

**Table A-12. Lost earnings due to death and withdrawal from labour force, attributable to AIDS, in millions of 2010 \$PPP**

Country		Wages	Deaths	Fully unable	Lost earnings
Mexico	2005	9,484	6,186	1,272	70,734,683
	2010	9,531	4,230	511	45,184,405
	2015	8,826	3,256	111	29,708,624
	2020	10,013	1,967	1	19,705,582
Mongolia	2005	6,102	1	0	3,509
	2010	8,782	2	0	15,368
	2015	15,022	3	0	50,474
	2020	16,874	7	1	128,245
Morocco	2005	6,687	314	47	2,414,816
	2010	8,009	608	126	5,877,203
	2015	9,029	649	120	6,941,202
	2020	10,709	228	7	2,509,096
Mozambique	2005	518	40,266	10,139	26,108,002
	2010	716	39,602	6,501	33,032,154
	2015	873	31,403	2,396	29,506,431
	2020	999	21,913	274	22,173,858
Myanmar	2005	2,920	14,035	3,273	50,533,835
	2010	4,175	14,175	2,962	71,538,928
	2015	5,689	8,638	988	54,766,741
	2020	7,306	4,416	87	32,900,997
Namibia	2005	14,316	7,277	1,227	121,746,357
	2010	16,685	3,237	18	54,303,498
	2015	19,547	2,204	72	44,485,164
	2020	23,145	1,561	1	36,151,348
Nepal	2005	2,136	1,567	405	4,212,837
	2010	2,518	2,189	546	6,887,836
	2015	37,370	1,969	479	91,463,952
	2020	42,889	467	1	20,064,503

Sources: UNAIDS and ILO GWR databases, ILO calculations.

**Table A-12. Lost earnings due to death and withdrawal from labour force, attributable to AIDS, in millions of 2010 \$PPP**

Country		Wages	Deaths	Fully unable	Lost earnings
Netherlands	2005	31,413	419	27	14,008,084
	2010	32,255	313	19	10,720,105
	2015	33,627	347	37	12,937,083
	2020	37,754	282	19	11,358,999
New Zealand	2005	27,245	44	0	1,205,726
	2010	31,086	33	1	1,069,991
	2015	34,542	47	5	1,793,090
	2020	38,274	24	0	931,780
Nicaragua	2005	9,821	514	129	6,319,618
	2010	9,372	378	82	4,314,098
	2015	9,080	276	41	2,873,916
	2020	10,542	212	18	2,417,802
Niger	2005	1,374	3,075	856	5,403,448
	2010	1,466	2,644	662	4,847,561
	2015	1,617	2,280	657	4,747,143
	2020	1,980	651	15	1,319,341
Nigeria	2005	4,585	106,049	25,987	605,396,164
	2010	5,691	102,829	23,298	717,800,542
	2015	6,266	97,968	19,966	739,003,232
	2020	6,506	35,737	84	233,047,669
Norway	2005	43,641	97	22	5,187,573
	2010	49,209	69	3	3,547,262
	2015	50,517	28	0	1,425,338
	2020	55,292	24	0	1,346,359
Oman	2005	15,300	20	0	308,840
	2010	16,731	29	3	534,648
	2015	4,502	59	8	305,304
	2020	4,924	60	9	342,465

Sources: UNAIDS and ILO GWR databases, ILO calculations.



**Table A-12. Lost earnings due to death and withdrawal from labour force, attributable to AIDS, in millions of 2010 \$PPP**

Country		Wages	Deaths	Fully unable	Lost earnings
Pakistan	2005	4,764	509	131	3,047,159
	2010	5,085	993	214	6,138,324
	2015	5,810	2,437	565	17,439,419
	2020	6,739	1,652	55	11,502,495
Panama	2005	15,100	478	73	8,324,360
	2010	16,454	337	26	5,975,755
	2015	22,061	363	22	8,492,363
	2020	26,517	293	12	8,072,936
Papua New Guinea	2005	2,057	1,311	348	3,412,706
	2010	2,440	932	163	2,673,169
	2015	4,501	527	22	2,469,472
	2020	4,549	294	2	1,348,030
Paraguay	2005	8,624	611	133	6,414,956
	2010	10,272	505	84	6,046,743
	2015	12,174	646	127	9,408,110
	2020	13,747	513	73	8,053,201
Peru	2005	8,318	3,278	831	34,180,531
	2010	9,263	1,672	35	15,806,648
	2015	6,607	1,322	138	9,644,012
	2020	7,558	703	0	5,315,239
Philippines	2005	5,577	155	34	1,053,778
	2010	5,590	214	10	1,252,729
	2015	6,370	431	25	2,905,390
	2020	7,744	458	1	3,555,343
Poland	2005	17,038	808	162	16,517,180
	2010	21,919	837	170	22,061,753
	2015	24,920	900	171	26,667,887
	2020	28,879	306	12	9,165,507

Sources: UNAIDS and ILO GWR databases, ILO calculations.

**Table A-12. Lost earnings due to death and withdrawal from labour force, attributable to AIDS, in millions of 2010 \$PPP**

Country		Wages	Deaths	Fully unable	Lost earnings
Portugal	2005	18,408	502	24	9,682,660
	2010	21,175	787	134	19,505,520
	2015	39,994	509	18	21,054,303
	2020	44,798	300	12	13,963,998
Republic of Korea	2005	41,076	165	1	6,819,986
	2010	41,034	168	0	6,895,177
	2015	41,755	179	0	7,467,544
	2020	47,851	165	1	7,956,613
Republic of Moldova	2005	4,998	380	81	2,304,150
	2010	6,911	407	90	3,435,794
	2015	8,388	458	98	4,664,759
	2020	10,017	242	33	2,749,652
Romania	2005	9,310	138	1	1,286,358
	2010	15,178	145	0	2,200,370
	2015	17,495	104	1	1,833,568
	2020	20,608	118	1	2,436,393
Rwanda	2005	2,843	11,010	1,908	36,728,420
	2010	3,721	3,501	163	13,633,051
	2015	4,718	2,220	40	10,664,979
	2020	5,743	1,930	37	11,297,021
Senegal	2005	3,184	1,829	494	7,397,162
	2010	3,299	1,131	156	4,244,665
	2015	3,475	1,542	308	6,428,656
	2020	4,140	614	2	2,547,193

Sources: UNAIDS and ILO GWR databases, ILO calculations.

**Table A-12. Lost earnings due to death and withdrawal from labour force, attributable to AIDS, in millions of 2010 \$PPP**

Country		Wages	Deaths	Fully unable	Lost earnings
Sierra Leone	2005	1,763	1,159	264	2,508,753
	2010	2,047	1,624	297	3,931,721
	2015	2,213	1,768	329	4,641,366
	2020	2,870	542	1	1,556,640
Singapore	2005	51,512	172	44	11,152,420
	2010	55,720	147	24	9,505,505
	2015	64,405	211	43	16,364,878
	2020	71,588	167	27	13,909,976
Slovakia	2005	13,685	9	0	125,146
	2010	18,794	25	4	539,376
	2015	20,515	23	0	484,463
	2020	24,072	26	0	625,278
Slovenia	2005	25,559	15	3	460,193
	2010	28,755	16	1	486,393
	2015	29,988	11	0	334,511
	2020	33,985	10	0	338,999
Somalia	2005	929	1,007	275	1,190,643
	2010	1,075	1,105	289	1,497,854
	2015	865	1,105	290	1,205,906
	2020	952	773	176	903,247
South Africa	2005	20,451	234,910	53,679	5,901,932,433
	2010	22,246	200,387	31,190	5,151,760,315
	2015	22,980	118,289	7,017	2,879,488,329
	2020	24,607	79,263	214	1,955,672,976

Sources: UNAIDS and ILO GWR databases, ILO calculations.

**Table A-12. Lost earnings due to death and withdrawal from labour force, attributable to AIDS, in millions of 2010 \$PPP**

Country		Wages	Deaths	Fully unable	Lost earnings
Spain	2005	27,533	835	25	23,685,319
	2010	31,654	1,034	66	34,808,333
	2015	32,122	982	49	33,099,764
	2020	37,132	837	68	33,595,980
Sri Lanka	2005	6,011	32	5	225,080
	2010	4,888	53	9	302,547
	2015	6,255	96	16	696,223
	2020	7,433	99	11	820,739
Sudan	2005	3,225	647	155	2,588,968
	2010	4,002	920	187	4,431,127
	2015	5,101	1,723	406	10,856,481
	2020	5,464	722	20	4,056,138
Suriname	2005	12,238	111	16	1,561,870
	2010	14,293	108	12	1,714,827
	2015	14,851	102	7	1,625,326
	2020	14,955	35	0	519,385
Swaziland	2005	8,198	4,557	827	44,141,326
	2010	8,868	3,152	193	29,662,578
	2015	9,788	2,342	8	22,996,874
	2020	11,005	2,317	2	25,519,048
Sweden	2005	34,550	281	59	11,770,500
	2010	38,615	125	14	5,353,134
	2015	40,422	52	0	2,119,532
	2020	44,720	54	0	2,422,277
Tajikistan	2005	1,628	328	74	655,364
	2010	2,771	542	127	1,852,568
	2015	4,920	659	160	4,027,696
	2020	5,806	690	167	4,975,774

Sources: UNAIDS and ILO GWR databases, ILO calculations.

**Table A-12. Lost earnings due to death and withdrawal from labour force, attributable to AIDS, in millions of 2010 \$PPP**

Country		Wages	Deaths	Fully unable	Lost earnings
Thailand	2005	8,782	30,354	4,698	307,816,765
	2010	9,321	17,424	2,888	189,332,652
	2015	12,382	12,516	1,450	172,921,590
	2020	14,381	11,188	1,817	187,034,421
Togo	2005	1,988	6,723	1,561	16,466,886
	2010	2,035	6,029	1,100	14,505,832
	2015	2,275	4,132	788	11,190,124
	2020	2,663	1,558	1	4,153,451
Trinidad and Tobago	2005	22,704	264	27	6,618,597
	2010	26,855	244	34	7,462,517
	2015	26,874	174	12	5,008,117
	2020	29,262	123	5	3,749,861
Tunisia	2005	9,500	11	0	102,219
	2010	11,263	20	1	235,954
	2015	11,601	58	12	809,055
	2020	13,113	27	0	359,368
Turkey	2005	16,814	159	31	3,200,250
	2010	18,515	271	59	6,101,004
	2015	24,106	255	1	6,161,264
	2020	26,958	327	2	8,874,103
Turkmenistan	2005	10,457	190	44	2,454,833
	2010	7,005	388	98	3,405,741
	2015	10,094	618	163	7,874,869
	2020	12,375	933	242	14,541,923
Uganda	2005	6,516	46,027	8,140	352,928,721
	2010	5,216	32,615	4,719	194,737,367
	2015	9,867	20,331	1,112	211,574,901
	2020	12,016	13,942	38	167,984,207

Sources: UNAIDS and ILO GWR databases, ILO calculations.

**Table A-12. Lost earnings due to death and withdrawal from labour force, attributable to AIDS, in millions of 2010 \$PPP**

Country		Wages	Deaths	Fully unable	Lost earnings
Ukraine	2005	7,479	9,138	1,937	82,822,655
	2010	8,978	11,345	2,489	124,206,159
	2015	8,096	6,226	1,465	62,270,829
	2020	9,497	5,783	1,236	66,651,831
United Republic of Tanzania	2005	12,901	82,757	23,777	1,374,411,475
	2010	9,100	51,329	7,912	539,108,269
	2015	10,843	28,150	2,323	330,415,138
	2020	13,859	12,263	19	170,211,385
Uruguay	2005	9,600	214	28	2,325,506
	2010	12,436	468	98	7,036,517
	2015	14,343	222	9	3,318,591
	2020	16,213	150	0	2,425,849
Uzbekistan	2005	4,079	1,526	336	7,596,380
	2010	5,635	3,003	798	21,417,183
	2015	7,576	2,145	547	20,393,857
	2020	9,316	424	46	4,371,303
Venezuela	2005	8,321	1,225	15	10,320,481
	2010	10,664	1,191	74	13,493,449
	2015	11,062	2,569	162	30,209,636
	2020	9,598	1,030	2	9,901,496
Viet Nam	2005	4,244	8,453	2,393	46,031,175
	2010	5,463	6,931	882	42,684,982
	2015	7,015	8,190	1,291	66,507,329
	2020	8,638	10,534	2,490	112,506,409
Yemen	2005	4,250	145	36	769,529
	2010	4,581	161	28	862,623
	2015	2,701	205	42	668,046
	2020	2,903	84	0	245,434

Sources: UNAIDS and ILO GWR databases, ILO calculations.

**Table A-12. Lost earnings due to death and withdrawal from labour force, attributable to AIDS, in millions of 2010 \$PPP**

Country		Wages	Deaths	Fully unable	Lost earnings
Zambia	2005	2,835	41,485	9,554	144,687,817
	2010	3,119	18,420	1,395	61,800,172
	2015	3,450	13,439	326	47,485,623
	2020	3,767	14,184	245	54,355,638
Zimbabwe	2005	10,807	87,310	24,937	1,213,062,439
	2010	9,541	39,057	2,802	399,383,436
	2015	12,353	23,035	1,941	308,523,614
	2020	12,533	15,395	451	198,597,145

Sources: UNAIDS and ILO GWR databases, ILO calculations.

## (6) Impact 2

**Table A-13. Lost earnings due to partial inability to work, attributable to AIDS, over three impact scenarios, in millions of 2010 \$PPP, group and global levels**

	Lost earnings (low)				Lost earnings (medium)				Lost earnings (high)			
	2005	2010	2015	2020	2005	2010	2015	2020	2005	2010	2015	2020
Totals by region												
AES	891	535	228	36	1,257	682	305	58	2,451	1,472	626	99
AP	125	128	107	81	225	234	193	143	342	351	295	222
AWC	109	103	103	6	218	199	200	12	300	284	282	16
EECA	22	41	59	98	40	72	103	171	62	112	161	269
LAC	38	41	25	6	74	76	47	11	104	111	70	17
MENA	2	3	4	3	5	7	8	6	6	10	12	9
WENA	92	58	37	13	160	101	65	23	252	159	102	37
Totals by income group												
High	114	92	93	105	199	160	163	184	312	252	255	290
Upper middle	553	498	207	46	659	604	263	74	1521	1370	570	127
Lower middle	298	204	180	83	531	363	324	147	820	562	495	229
Low	315	115	83	9	591	244	173	19	865	315	228	23
Fast Track	1,171	830	496	208	2,049	1,453	868	364	3,220	2,284	1,363	572
Total	1,280	909	563	243	2,239	1,590	985	426	3,519	2,499	1,548	669

Sources: UNAIDS and ILO GWR databases, ILO calculations.



**Table A-14. Lost earnings due to partial inability to work, attributable to AIDS, over three impact scenarios, in millions of 2010 \$PPP**

Country	2005	Annual wage	Partially unable	Lost earnings		
				Low	Medium	High
Afghanistan	2005	1,815	53	0.019	0.033	0.053
	2010	2,579	76	0.039	0.068	0.107
	2015	2,793	111	0.062	0.109	0.171
	2020	3,103	35	0.022	0.038	0.060
Albania	2005	5,919	8	0.009	0.016	0.026
	2010	9,657	10	0.019	0.033	0.052
	2015	10,725	5	0.011	0.020	0.031
	2020	12,542	1	0.002	0.004	0.006
Algeria	2005	13,939	52	0.146	0.255	0.401
	2010	9,573	25	0.047	0.083	0.130
	2015	10,208	1	0.002	0.004	0.006
	2020	10,940	0	0.000	0.000	0.000
Angola	2005	5,088	3400	3.460	6.054	9.514
	2010	7,594	3604	5.474	9.580	15.054
	2015	8,027	3169	5.087	8.903	13.990
	2020	8,460	219	0.370	0.647	1.017
Argentina	2005	15,475	114	0.353	0.619	0.972
	2010	18,659	45	0.169	0.295	0.464
	2015	19,047	631	2.405	4.209	6.614
	2020	20,775	397	1.649	2.887	4.536
Armenia	2005	4,448	29	0.026	0.045	0.071
	2010	6,866	56	0.077	0.135	0.213
	2015	9,765	48	0.093	0.163	0.257
	2020	11,028	59	0.129	0.226	0.356

Sources: UNAIDS and ILO GWR databases, ILO calculations.

**Table A-14. Lost earnings due to partial inability to work, attributable to AIDS, over three impact scenarios, in millions of 2010 \$PPP**

Country	2005	Annual wage	Partially unable	Lost earnings		
				Low	Medium	High
Australia	2005	44,445	239	2.127	3.723	5.850
	2010	46,423	99	0.918	1.606	2.523
	2015	51,792	0	0.004	0.007	0.011
	2020	58,518	5	0.057	0.100	0.157
Austria	2005	41,414	8	0.069	0.121	0.190
	2010	45,312	0	0.000	0.000	0.001
	2015	46,256	12	0.114	0.200	0.315
	2020	50,602	9	0.092	0.162	0.254
Azerbaijan	2005	8,003	51	0.082	0.144	0.226
	2010	13,529	89	0.241	0.422	0.663
	2015	16,583	108	0.360	0.629	0.989
	2020	17,878	66	0.235	0.412	0.648
Bahamas	2005	25,074	122	0.611	1.070	1.682
	2010	22,614	108	0.488	0.853	1.341
	2015	21,405	100	0.427	0.747	1.174
	2020	23,989	83	0.397	0.695	1.093
Bangladesh	2005	2,561	104	0.053	0.093	0.146
	2010	3,053	228	0.139	0.243	0.382
	2015	3,527	260	0.183	0.321	0.504
	2020	4,645	287	0.267	0.467	0.734
Barbados	2005	15,943	4	0.014	0.024	0.038
	2010	16,230	6	0.020	0.035	0.055
	2015	16,278	22	0.073	0.127	0.200
	2020	18,275	33	0.121	0.211	0.332

Sources: UNAIDS and ILO GWR databases, ILO calculations.

**Table A-14. Lost earnings due to partial inability to work, attributable to AIDS, over three impact scenarios, in millions of 2010 \$PPP**

Country	2005	Annual wage	Partially unable	Lost earnings		
				Low	Medium	High
Belarus	2005	11,646	169	0.394	0.689	1.082
	2010	16,862	284	0.959	1.679	2.638
	2015	17,894	316	1.129	1.976	3.105
	2020	19,420	98	0.380	0.664	1.044
Belgium	2005	37,828	19	0.140	0.245	0.385
	2010	41,524	0	0.001	0.001	0.001
	2015	42,167	1	0.012	0.021	0.033
	2020	46,352	3	0.028	0.050	0.078
Belize	2005	8,869	27	0.047	0.083	0.130
	2010	8,873	41	0.074	0.129	0.202
	2015	9,083	42	0.076	0.134	0.210
	2020	9,395	3	0.005	0.009	0.014
Benin	2005	2,037	1536	0.626	1.095	1.721
	2010	2,134	742	0.317	0.554	0.870
	2015	2,396	841	0.403	0.705	1.108
	2020	2,766	3	0.001	0.002	0.004
Bhutan	2005	4,635	10	0.009	0.016	0.026
	2010	6,579	29	0.039	0.068	0.107
	2015	7,928	43	0.067	0.118	0.185
	2020	9,997	48	0.095	0.167	0.262
Bolivia	2005	5,783	389	0.450	0.788	1.238
	2010	6,660	353	0.470	0.822	1.292
	2015	8,045	291	0.469	0.820	1.289
	2020	9,140	207	0.378	0.661	1.039

Sources: UNAIDS and ILO GWR databases, ILO calculations.

**Table A-14. Lost earnings due to partial inability to work, attributable to AIDS, over three impact scenarios, in millions of 2010 \$PPP**

Country	2005	Annual wage	Partially unable	Lost earnings		
				Low	Medium	High
Bolivia	2005	5,783	389	0.450	0.788	1.238
	2010	6,660	353	0.470	0.822	1.292
	2015	8,045	291	0.469	0.820	1.289
	2020	9,140	207	0.378	0.661	1.039
Bosnia and Herzegovina	2005	15,295	0	0.001	0.002	0.003
	2010	20,394	2	0.009	0.016	0.026
	2015	21,040	2	0.007	0.013	0.020
	2020	23,550	3	0.015	0.026	0.041
Botswana	2005	15,072	2,358	7.107	12.437	19.544
	2010	16,519	557	1.839	3.218	5.057
	2015	19,025	121	0.461	0.807	1.269
	2020	22,099	18	0.077	0.135	0.213
Brazil	2005	12,345	4,449	10.984	19.222	30.207
	2010	12,866	7,610	19.584	34.271	53.855
	2015	13,132	3,919	10.294	18.014	28.308
	2020	14,083	504	1.419	2.483	3.901
Brunei Darussalam	2005	41,761	0	0.000	0.001	0.001
	2010	40,546	0	0.000	0.000	0.000
	2015	37,549	0	0.000	0.000	0.000
	2020	41,986	0	0.000	0.000	0.000
Bulgaria	2005	7,315	21	0.030	0.053	0.083
	2010	11,747	19	0.046	0.080	0.125
	2015	14,895	27	0.081	0.142	0.223
	2020	18,107	3	0.012	0.021	0.033

Sources: UNAIDS and ILO GWR databases, ILO calculations.

**Table A-14. Lost earnings due to partial inability to work, attributable to AIDS, over three impact scenarios, in millions of 2010 \$PPP**

Country	2005	Annual wage	Partially unable	Lost earnings		
				Low	Medium	High
Burkina Faso	2005	2,013	3,758	1.513	2.648	4.161
	2010	2,329	1,647	0.767	1.342	2.109
	2015	2,535	926	0.469	0.822	1.291
	2020	3,032	31	0.019	0.033	0.051
Burundi	2005	2,209	3,121	1.379	2.413	3.792
	2010	2,330	2,354	1.097	1.919	3.016
	2015	2,283	872	0.398	0.697	1.095
	2020	2,368	42	0.020	0.035	0.055
Cambodia	2005	2,100	2,979	1.252	2.190	3.442
	2010	2,691	1,136	0.611	1.070	1.681
	2015	3,510	296	0.208	0.364	0.572
	2020	4,321	519	0.448	0.784	1.232
Cameroon	2005	6,869	9,587	13.170	23.047	36.217
	2010	6,916	9,555	13.218	23.131	36.348
	2015	7,792	11,184	17.430	30.502	47.932
	2020	8,748	2,062	3.609	6.315	9.924
Cape Verde	2005	3,088	73	0.045	0.079	0.125
	2010	3,876	68	0.053	0.093	0.146
	2015	3,936	34	0.027	0.047	0.073
	2020	4,585	2	0.002	0.003	0.004
Central African Republic	2005	1,454	5,039	1.465	2.564	4.029
	2010	1,581	3,809	1.205	2.108	3.313
	2015	1,115	2,952	0.659	1.153	1.811
	2020	1,255	120	0.030	0.053	0.083

Sources: UNAIDS and ILO GWR databases, ILO calculations.

**Table A-14. Lost earnings due to partial inability to work, attributable to AIDS, over three impact scenarios, in millions of 2010 \$PPP**

Country	2005	Annual wage	Partially unable	Lost earnings		
				Low	Medium	High
Chad	2005	2,132	3,606	1.538	2.691	4.228
	2010	2,289	2,828	1.294	2.265	3.560
	2015	2,434	2,581	1.256	2.199	3.455
	2020	2,748	85	0.047	0.082	0.129
Chile	2005	17,297	32	0.110	0.192	0.302
	2010	19,773	46	0.181	0.316	0.496
	2015	22,920	0	0.002	0.003	0.005
	2020	25,239	0	0.001	0.002	0.002
Colombia	2005	9,366	1,059	1.985	3.473	5.458
	2010	11,283	1,848	4.170	7.298	11.469
	2015	13,441	137	0.367	0.643	1.010
	2020	15,134	97	0.293	0.513	0.806
Congo	2005	7907	2122	3.356	5.873	9.229
	2010	6571	1330	1.748	3.059	4.807
	2015	7023	1377	1.934	3.385	5.319
	2020	8219	11	0.019	0.033	0.051
Costa Rica	2005	13,729	22	0.059	0.104	0.164
	2010	15,221	22	0.068	0.119	0.187
	2015	17,001	28	0.096	0.168	0.263
	2020	19,547	15	0.058	0.101	0.158

Sources: UNAIDS and ILO GWR databases, ILO calculations.

**Table A-14. Lost earnings due to partial inability to work, attributable to AIDS, over three impact scenarios, in millions of 2010 \$PPP**

Country	2005	Annual wage	Partially unable	Lost earnings		
				Low	Medium	High
Côte d'Ivoire	2005	3,767	11,482	8.650	15.137	23.787
	2010	3,778	1,048	0.792	1.386	2.178
	2015	4,565	7,260	6.629	11.600	18.229
	2020	5,456	41	0.045	0.079	0.123
Croatia	2005	20,571	12	0.047	0.083	0.130
	2010	24,326	9	0.043	0.076	0.120
	2015	25,707	8	0.040	0.070	0.110
	2020	29,658	4	0.022	0.038	0.060
Cuba	2005	14,825	7	0.020	0.034	0.054
	2010	17,700	0	0.000	0.000	0.000
	2015	20,643	6	0.026	0.045	0.070
	2020	21,865	11	0.049	0.087	0.136
Cyprus	2005	29,103	6	0.035	0.062	0.097
	2010	33,557	7	0.046	0.080	0.126
	2015	32,077	0	0.000	0.000	0.000
	2020	36,934	0	0.000	0.000	0.000
Czech Republic	2005	20,059	14	0.055	0.096	0.151
	2010	24,126	22	0.105	0.184	0.288
	2015	24,489	0	0.000	0.000	0.000
	2020	27,730	0	0.000	0.001	0.001

Sources: UNAIDS and ILO GWR databases, ILO calculations.

**Table A-14. Lost earnings due to partial inability to work, attributable to AIDS, over three impact scenarios, in millions of 2010 \$PPP**

Country	2005	Annual wage	Partially unable	Lost earnings		
				Low	Medium	High
Dem. People's Republic of Korea	2005	2,173	5	0.002	0.004	0.006
	2010	2,300	10	0.005	0.008	0.013
	2015	2,173	15	0.007	0.011	0.018
	2020	2,396	13	0.006	0.011	0.017
Democratic Republic of the Congo	2005	5,892	12,077	14.231	24.904	39.135
	2010	6,546	10,522	13.774	24.105	37.880
	2015	8,061	6,733	10.855	18.996	29.850
	2020	8,568	525	0.900	1.574	2.474
Denmark	2005	51,840	7	0.068	0.118	0.186
	2010	59,037	0	0.000	0.000	0.001
	2015	61,249	9	0.105	0.184	0.290
	2020	66,429	7	0.096	0.168	0.264
Djibouti	2005	3,304	199	0.131	0.230	0.361
	2010	3,852	187	0.144	0.252	0.397
	2015	4,589	144	0.132	0.231	0.362
	2020	5,328	3	0.003	0.005	0.009
Dominican Republic	2005	7,770	2,569	3.993	6.987	10.980
	2010	7,950	1,842	2.929	5.127	8.056
	2015	8,429	870	1.467	2.567	4.034
	2020	10,441	72	0.151	0.264	0.415
Ecuador	2005	10,640	654	1.392	2.436	3.828
	2010	10,625	410	0.871	1.525	2.396
	2015	12,244	265	0.648	1.134	1.783
	2020	12,537	103	0.258	0.451	0.708

Sources: UNAIDS and ILO GWR databases, ILO calculations.



**Table A-14. Lost earnings due to partial inability to work, attributable to AIDS, over three impact scenarios, in millions of 2010 \$PPP**

Country	2005	Annual wage	Partially unable	Lost earnings		
				Low	Medium	High
Egypt	2005	12,280	45	0.110	0.193	0.303
	2010	15,686	72	0.225	0.393	0.618
	2015	16,065	100	0.322	0.563	0.885
	2020	19,610	10	0.039	0.068	0.106
El Salvador	2005	7,262	79	0.114	0.200	0.314
	2010	6,850	41	0.057	0.099	0.156
	2015	7,361	136	0.201	0.351	0.552
	2020	8,452	8	0.014	0.025	0.039
Equatorial Guinea	2005	19,606	318	1.246	2.181	3.427
	2010	21,076	590	2.487	4.352	6.840
	2015	17,023	409	1.394	2.439	3.833
	2020	18,265	23	0.083	0.146	0.229
Eritrea	2005	4,442	561	0.498	0.872	1.370
	2010	3,862	295	0.228	0.398	0.626
	2015	3,951	115	0.091	0.158	0.249
	2020	4,066	2	0.002	0.003	0.005
Estonia	2005	13,816	122	0.338	0.591	0.928
	2010	18,985	80	0.305	0.534	0.839
	2015	22,567	43	0.194	0.339	0.533
	2020	25,732	21	0.108	0.188	0.296
Ethiopia	2005	1719	30,681	10.551	18.464	29.014
	2010	2,521	7,274	3.668	6.418	10.086
	2015	3,599	6,312	4.543	7.951	12.495
	2020	47,91	600	0.575	1.007	1.582

Sources: UNAIDS and ILO GWR databases, ILO calculations.

**Table A-14. Lost earnings due to partial inability to work, attributable to AIDS, over three impact scenarios, in millions of 2010 \$PPP**

Country	2005	Annual wage	Partially unable	Lost earnings		
				Low	Medium	High
Fiji	2005	7,427	4	0.006	0.011	0.018
	2010	7,352	7	0.010	0.017	0.027
	2015	8,756	6	0.011	0.019	0.029
	2020	9,937	16	0.032	0.056	0.088
Finland	2005	35,159	34	0.239	0.418	0.657
	2010	41,425	4	0.030	0.053	0.083
	2015	41,533	0	0.000	0.000	0.000
	2020	45,771	0	0.001	0.001	0.002
Gabon	2005	12,107	532	1.288	2.253	3.541
	2010	10,934	730	1.597	2.794	4.391
	2015	11,988	317	0.760	1.330	2.089
	2020	13,697	24	0.064	0.113	0.177
Gambia	2005	2,456	320	0.157	0.275	0.433
	2010	2,633	401	0.211	0.369	0.580
	2015	2,526	360	0.182	0.318	0.500
	2020	2,690	7	0.004	0.006	0.010
Georgia	2005	4,332	48	0.041	0.073	0.114
	2010	9,139	59	0.109	0.190	0.299
	2015	12,249	84	0.207	0.362	0.569
	2020	14,636	139	0.406	0.710	1.116

Sources: UNAIDS and ILO GWR databases, ILO calculations.

**Table A-14. Lost earnings due to partial inability to work, attributable to AIDS, over three impact scenarios, in millions of 2010 \$PPP**

Country	2005	Annual wage	Partially unable	Lost earnings		
				Low	Medium	High
Ghana	2005	6,434	7,874	10.132	17.732	27.864
	2010	4,916	6,000	5.900	10.325	16.225
	2015	6,315	3,735	4.717	8.255	12.972
	2020	7,507	104	0.156	0.273	0.428
Greece	2005	28,344	151	0.854	1.494	2.348
	2010	28,465	162	0.922	1.613	2.535
	2015	23,955	55	0.266	0.465	0.731
	2020	27,403	4	0.021	0.036	0.057
Guatemala	2005	7,693	85	0.131	0.229	0.360
	2010	8,239	0	0.000	0.001	0.001
	2015	6,368	649	0.826	1.446	2.272
	2020	7,021	16	0.022	0.038	0.060
Guinea	2005	2,020	2,126	0.859	1.503	2.363
	2010	2,016	1,390	0.560	0.981	1.541
	2015	1,998	1,604	0.641	1.122	1.763
	2020	2,243	12	0.005	0.010	0.015
Guinea-Bissau	2005	2,191	508	0.222	0.389	0.612
	2010	2,286	628	0.287	0.502	0.789
	2015	2,337	600	0.280	0.490	0.771
	2020	2,836	88	0.050	0.088	0.138

Sources: UNAIDS and ILO GWR databases, ILO calculations.

**Table A-14. Lost earnings due to partial inability to work, attributable to AIDS, over three impact scenarios, in millions of 2010 \$PPP**

Country	2005	Annual wage	Partially unable	Lost earnings		
				Low	Medium	High
Guyana	2005	5,935	36	0.043	0.076	0.119
	2010	7,386	16	0.023	0.040	0.063
	2015	8,939	19	0.034	0.059	0.093
	2020	12,374	1	0.002	0.004	0.006
Haiti	2005	2,528	6,467	3.270	5.723	8.993
	2010	2,431	4,721	2.296	4.017	6.313
	2015	2,673	2,166	1.158	2.027	3.185
	2020	2,955	101	0.060	0.105	0.165
Honduras	2005	5,393	784	0.846	1.480	2.326
	2010	6,060	487	0.590	1.033	1.624
	2015	6,579	315	0.415	0.726	1.141
	2020	7,919	104	0.165	0.289	0.454
Hungary	2005	16,299	48	0.157	0.275	0.432
	2010	19,659	57	0.223	0.390	0.613
	2015	21,373	52	0.224	0.392	0.617
	2020	24,759	2	0.011	0.020	0.031
Iceland	2005	34,875	0	0.003	0.005	0.007
	2010	32,135	0	0.000	0.000	0.000
	2015	35,330	0	0.001	0.001	0.002
	2020	41,634	0	0.001	0.002	0.003
India	2005	5,176	53,934	55.834	97.709	153.542
	2010	5,408	38,153	41.263	72.211	113.474
	2015	7,064	22,107	31.234	54.660	85.894
	2020	8,965	11,012	19.745	34.554	54.299

Sources: UNAIDS and ILO GWR databases, ILO calculations.

**Table A-14. Lost earnings due to partial inability to work, attributable to AIDS, over three impact scenarios, in millions of 2010 \$PPP**

Country	2005	Annual wage	Partially unable	Lost earnings		
				Low	Medium	High
Indonesia	2005	5,729	2,372	2.718	4.756	7.473
	2010	5,045	8,623	8.701	15.226	23.927
	2015	5,763	15,417	17.771	31.098	48.869
	2020	6,905	16,881	23.314	40.800	64.114
Islamic Republic of Iran	2005	10,189	589	1.200	2.099	3.299
	2010	9,493	917	1.742	3.048	4.789
	2015	8,713	1,158	2.017	3.530	5.548
	2020	10,205	1,355	2.766	4.841	7.607
Ireland	2005	46,560	80	0.748	1.309	2.056
	2010	43,460	48	0.421	0.737	1.157
	2015	42,542	3	0.022	0.039	0.061
	2020	49,236	9	0.093	0.162	0.255
Italy	2005	30,164	347	2.094	3.664	5.758
	2010	33,656	167	1.123	1.965	3.089
	2015	33,671	99	0.669	1.171	1.841
	2020	36,777	45	0.328	0.575	0.903
Jamaica	2005	17,825	712	2.540	4.445	6.985
	2010	15,198	528	1.604	2.808	4.412
	2015	14,038	408	1.147	2.007	3.154
	2020	15,921	23	0.073	0.128	0.201

Sources: UNAIDS and ILO GWR databases, ILO calculations.

**Table A-14. Lost earnings due to partial inability to work, attributable to AIDS, over three impact scenarios, in millions of 2010 \$PPP**

Country	2005	Annual wage	Partially unable	Lost earnings		
				Low	Medium	High
Japan	2005	34,414	211	1.450	2.537	3.987
	2010	35,437	68	0.485	0.850	1.335
	2015	36,625	1	0.006	0.010	0.016
	2020	40,572	5	0.038	0.066	0.104
Kazakhstan	2005	13,062	128	0.333	0.583	0.917
	2010	14,003	210	0.588	1.030	1.618
	2015	16,390	180	0.590	1.033	1.624
	2020	18,084	197	0.712	1.245	1.957
Kenya	2005	16,666	35,327	117.748	206.059	323.808
	2010	12,778	12,594	32.185	56.324	88.509
	2015	12,928	7,323	18.935	33.136	52.071
	2020	15,581	4,850	15.115	26.450	41.565
Kyrgyzstan	2005	3,802	31	0.023	0.041	0.064
	2010	5,951	75	0.089	0.155	0.244
	2015	6,905	109	0.150	0.263	0.413
	2020	7,910	117	0.186	0.325	0.511
Lao People's Democratic Republic	2005	3,674	78	0.058	0.101	0.159
	2010	4,976	157	0.156	0.273	0.429
	2015	6,788	139	0.189	0.331	0.520
	2020	7,956	214	0.340	0.595	0.935
Latvia	2005	10,755	147	0.316	0.552	0.868
	2010	15,949	149	0.475	0.831	1.307
	2015	18,643	154	0.573	1.002	1.575
	2020	22,040	45	0.198	0.347	0.545

Sources: UNAIDS and ILO GWR databases, ILO calculations.

**Table A-14. Lost earnings due to partial inability to work, attributable to AIDS, over three impact scenarios, in millions of 2010 \$PPP**

Country	2005	Annual wage	Partially unable	Lost earnings		
				Low	Medium	High
Lebanon	2005	12,896	23	0.059	0.103	0.162
	2010	17,107	25	0.084	0.147	0.232
	2015	13,751	24	0.066	0.116	0.182
	2020	17,767	2	0.008	0.013	0.021
Lesotho	2005	4,533	4,638	4.204	7.357	11.561
	2010	3,278	2,156	1.413	2.473	3.886
	2015	5,215	2,649	2.763	4.835	7.597
	2020	6,560	185	0.243	0.425	0.667
Liberia	2005	1,112	859	0.191	0.334	0.525
	2010	1,301	717	0.186	0.326	0.513
	2015	1,460	527	0.154	0.269	0.423
	2020	1,663	5	0.002	0.003	0.005
Lithuania	2005	39,526	44	0.346	0.606	0.952
	2010	54,166	45	0.489	0.856	1.345
	2015	62,570	33	0.407	0.713	1.120
	2020	74,642	30	0.446	0.780	1.226
Luxembourg	2005	51,708	15	0.156	0.272	0.428
	2010	56,000	20	0.227	0.397	0.624
	2015	58,955	22	0.260	0.454	0.714
	2020	65,181	6	0.075	0.130	0.205
Macedonia	2005	14,900	1	0.004	0.008	0.012
	2010	19,801	1	0.005	0.009	0.014
	2015	18,939	2	0.006	0.011	0.017
	2020	22,547	2	0.010	0.017	0.027

Sources: UNAIDS and ILO GWR databases, ILO calculations.

**Table A-14. Lost earnings due to partial inability to work, attributable to AIDS, over three impact scenarios, in millions of 2010 \$PPP**

Country	2005	Annual wage	Partially unable	Lost earnings		
				Low	Medium	High
Madagascar	2005	2,502	1,431	0.716	1.253	1.970
	2010	2,236	1,522	0.681	1.191	1.872
	2015	2,221	1,302	0.578	1.012	1.590
	2020	2,507	157	0.079	0.137	0.216
Malawi	2005	5,931	28,067	33.292	58.262	91.554
	2010	4,853	13,606	13.206	23.111	36.317
	2015	5,115	6,472	6.621	11.586	18.207
	2020	5,653	2,574	2.910	5.093	8.004
Malaysia	2005	19,554	2,692	10.527	18.422	28.949
	2010	19,059	2,489	9.488	16.604	26.092
	2015	23,463	1,729	8.112	14.197	22.309
	2020	27,003	1,485	8.020	14.036	22.056
Maldives	2005	7,461	1	0.001	0.002	0.004
	2010	9,854	1	0.002	0.003	0.005
	2015	11,240	1	0.001	0.002	0.003
	2020	14,190	1	0.002	0.003	0.004
Mali	2005	2,739	1,557	0.853	1.492	2.345
	2010	2,912	1,007	0.587	1.026	1.613
	2015	2,985	1,587	0.948	1.658	2.606
	2020	3,479	165	0.115	0.201	0.316
Malta	2005	23,850	5	0.023	0.041	0.064
	2010	25,836	5	0.028	0.049	0.078
	2015	25,982	6	0.033	0.058	0.091
	2020	31,025	0	0.002	0.004	0.006

Sources: UNAIDS and ILO GWR databases, ILO calculations.



**Table A-14. Lost earnings due to partial inability to work, attributable to AIDS, over three impact scenarios, in millions of 2010 \$PPP**

Country	2005	Annual wage	Partially unable	Lost earnings		
				Low	Medium	High
Mauritania	2005	4,016	230	0.185	0.324	0.509
	2010	4,462	250	0.223	0.391	0.615
	2015	4,845	237	0.230	0.402	0.632
	2020	5,725	3	0.003	0.005	0.008
Mauritius	2005	11,939	222	0.530	0.927	1.457
	2010	14,187	251	0.711	1.244	1.955
	2015	18,099	149	0.540	0.946	1.486
	2020	21,018	0	0.002	0.003	0.005
Mexico	2005	9,484	2,944	5.585	9.773	15.358
	2010	9,531	1,674	3.190	5.583	8.773
	2015	8,826	769	1.357	2.374	3.731
	2020	10,013	19	0.038	0.066	0.104
Mongolia	2005	6,102	0	0.000	0.000	0.001
	2010	8,782	0	0.000	0.000	0.001
	2015	15,022	1	0.002	0.004	0.006
	2020	16,874	3	0.011	0.019	0.031
Morocco	2005	6,687	167	0.223	0.391	0.614
	2010	8,009	325	0.520	0.911	1.431
	2015	9,029	302	0.545	0.953	1.497
	2020	10,709	29	0.062	0.108	0.170
Mozambique	2005	518	20,488	2.122	3.714	5.837
	2010	716	16,433	2.355	4.121	6.476
	2015	873	5481	0.957	1.675	2.632
	2020	999	621	0.124	0.217	0.342

Sources: UNAIDS and ILO GWR databases, ILO calculations.

**Table A-14. Lost earnings due to partial inability to work, attributable to AIDS, over three impact scenarios, in millions of 2010 \$PPP**

Country	2005	Annual wage	Partially unable	Lost earnings		
				Low	Medium	High
Myanmar	2005	2,920	8,075	4.716	8.252	12.968
	2010	4,175	8,016	6.693	11.713	18.406
	2015	5,689	3,823	4.349	7.611	11.961
	2020	7,306	656	0.959	1.678	2.637
Namibia	2005	14,316	3,108	8.899	15.573	24.473
	2010	16,685	280	0.934	1.634	2.567
	2015	19,547	437	1.708	2.989	4.696
	2020	23,145	9	0.043	0.076	0.120
Nepal	2005	2,136	906	0.387	0.677	1.064
	2010	2,518	1,261	0.635	1.111	1.746
	2015	37,370	992	7.411	12.969	20.379
	2020	42,889	10	0.083	0.146	0.229
Netherlands	2005	31,413	156	0.978	1.712	2.690
	2010	32,255	110	0.713	1.247	1.960
	2015	33,627	136	0.918	1.606	2.524
	2020	37,754	84	0.633	1.108	1.741
New Zealand	2005	27,245	4	0.020	0.034	0.054
	2010	31,086	5	0.031	0.054	0.084
	2015	34,542	19	0.131	0.229	0.360
	2020	38,274	2	0.013	0.023	0.036
Nicaragua	2005	9,821	250	0.491	0.859	1.349
	2010	9,372	191	0.359	0.628	0.987
	2015	9,080	120	0.218	0.382	0.600
	2020	10,542	73	0.154	0.270	0.424

Sources: UNAIDS and ILO GWR databases, ILO calculations.

**Table A-14. Lost earnings due to partial inability to work, attributable to AIDS, over three impact scenarios, in millions of 2010 \$PPP**

Country	2005	Annual wage	Partially unable	Lost earnings		
				Low	Medium	High
Niger	2005	1,374	1,668	0.459	0.803	1.261
	2010	1,466	1,429	0.419	0.733	1.153
	2015	1,617	1,116	0.361	0.632	0.993
	2020	1,980	31	0.012	0.021	0.033
Nigeria	2005	4,585	50,947	46.719	81.759	128.478
	2010	5,691	49,719	56.591	99.034	155.625
	2015	6,266	41,733	52.301	91.527	143.829
	2020	6,506	489	0.637	1.114	1.751
Norway	2005	43,641	51	0.448	0.784	1.232
	2010	49,209	16	0.160	0.280	0.440
	2015	50,517	0	0.002	0.003	0.005
	2020	55,292	1	0.010	0.018	0.028
Oman	2005	15,300	3	0.008	0.014	0.021
	2010	16,731	12	0.041	0.072	0.113
	2015	4,502	27	0.024	0.042	0.066
	2020	4,924	26	0.026	0.045	0.071
Pakistan	2005	4,764	265	0.252	0.441	0.694
	2010	5,085	500	0.509	0.890	1.399
	2015	5,810	1,291	1.500	2.625	4.126
	2020	6,739	359	0.483	0.846	1.329
Panama	2005	15,100	217	0.656	1.147	1.803
	2010	16,454	129	0.424	0.741	1.165
	2015	22,061	94	0.415	0.727	1.142
	2020	26,517	47	0.248	0.434	0.683

Sources: UNAIDS and ILO GWR databases, ILO calculations.

**Table A-14. Lost earnings due to partial inability to work, attributable to AIDS, over three impact scenarios, in millions of 2010 \$PPP**

Country	2005	Annual wage	Partially unable	Lost earnings		
				Low	Medium	High
Papua New Guinea	2005	2,057	707	0.291	0.509	0.800
	2010	2,440	551	0.269	0.471	0.739
	2015	4,501	142	0.128	0.223	0.351
	2020	4,549	22	0.020	0.035	0.055
Paraguay	2005	8,624	293	0.506	0.885	1.390
	2010	10,272	273	0.561	0.983	1.544
	2015	12,174	317	0.773	1.353	2.126
	2020	13,747	213	0.587	1.027	1.614
Peru	2005	8,318	1,625	2.704	4.732	7.435
	2010	9,263	267	0.496	0.867	1.363
	2015	6,607	494	0.653	1.143	1.797
	2020	7,558	0	0.001	0.001	0.002
Philippines	2005	5,577	78	0.087	0.152	0.239
	2010	5,590	59	0.066	0.116	0.182
	2015	6,370	68	0.087	0.152	0.238
	2020	7,744	11	0.018	0.031	0.049
Poland	2005	17,038	352	1.200	2.100	3.300
	2010	21,919	392	1.719	3.008	4.727
	2015	24,920	388	1.934	3.384	5.317
	2020	28,879	67	0.385	0.673	1.058
Portugal	2005	18,408	188	0.690	1.208	1.899
	2010	21,175	408	1.729	3.026	4.756
	2015	39,994	103	0.822	1.439	2.261
	2020	44,798	64	0.577	1.010	1.588

Sources: UNAIDS and ILO GWR databases, ILO calculations.

**Table A-14. Lost earnings due to partial inability to work, attributable to AIDS, over three impact scenarios, in millions of 2010 \$PPP**

Country	2005	Annual wage	Partially unable	Lost earnings		
				Low	Medium	High
Republic of Korea	2005	41,076	188	1.541	2.696	4.236
	2010	41,034	408	3.351	5.865	9.216
	2015	41,755	103	0.858	1.502	2.360
	2020	47,851	64	0.617	1.079	1.696
Republic of Moldova	2005	4,998	162	0.162	0.284	0.446
	2010	6,911	182	0.251	0.440	0.691
	2015	8,388	209	0.351	0.614	0.965
	2020	10,017	108	0.216	0.378	0.594
Romania	2005	9,310	13	0.023	0.041	0.064
	2010	15,178	0	0.000	0.000	0.000
	2015	17,495	5	0.018	0.032	0.050
	2020	20,608	5	0.021	0.037	0.057
Rwanda	2005	2,843	4,669	2.655	4.647	7.302
	2010	3,721	870	0.647	1.133	1.780
	2015	4,718	189	0.178	0.312	0.490
	2020	5,743	181	0.208	0.365	0.573
Senegal	2005	3,184	1,033	0.658	1.151	1.808
	2010	3,299	474	0.313	0.547	0.859
	2015	3,475	717	0.498	0.872	1.370
	2020	4,140	18	0.015	0.025	0.040

Sources: UNAIDS and ILO GWR databases, ILO calculations.

**Table A-14. Lost earnings due to partial inability to work, attributable to AIDS, over three impact scenarios, in millions of 2010 \$PPP**

Country	2005	Annual wage	Partially unable	Lost earnings		
				Low	Medium	High
Sierra Leone	2005	1,763	602	0.212	0.372	0.584
	2010	2,047	847	0.347	0.607	0.953
	2015	2,213	764	0.338	0.592	0.930
	2020	2,870	7	0.004	0.007	0.011
Singapore	2005	51,512	82	0.848	1.484	2.331
	2010	55,720	71	0.787	1.377	2.164
	2015	64,405	97	1.251	2.190	3.441
	2020	71,588	72	1.035	1.812	2.847
Slovakia	2005	13,685	3	0.008	0.013	0.021
	2010	18,794	11	0.041	0.072	0.112
	2015	20,515	1	0.006	0.011	0.017
	2020	24,072	1	0.007	0.012	0.020
Slovenia	2005	25,559	7	0.036	0.064	0.100
	2010	28,755	4	0.020	0.035	0.055
	2015	29,988	0	0.000	0.001	0.001
	2020	33,985	0	0.002	0.003	0.004
Somalia	2005	929	518	0.096	0.168	0.264
	2010	1,075	552	0.119	0.208	0.326
	2015	865	538	0.093	0.163	0.256
	2020	952	400	0.076	0.133	0.209
South Africa	2005	20,451	109,543	448.056	784.097	1232.153
	2010	22,246	87,296	388.404	679.707	1068.111
	2015	22,980	29,866	137.261	240.206	377.466
	2020	24,607	2,085	10.261	17.957	28.218

Sources: UNAIDS and ILO GWR databases, ILO calculations.

**Table A-14. Lost earnings due to partial inability to work, attributable to AIDS, over three impact scenarios, in millions of 2010 \$PPP**

Country	2005	Annual wage	Partially unable	Lost earnings		
				Low	Medium	High
Spain	2005	27,533	141	0.775	1.356	2.130
	2010	31,654	263	1.666	2.916	4.582
	2015	32,122	220	1.411	2.469	3.879
	2020	37,132	208	1.541	2.697	4.238
Sri Lanka	2005	6,011	13	0.016	0.028	0.044
	2010	4,888	27	0.026	0.045	0.071
	2015	6,255	45	0.056	0.098	0.155
	2020	7,433	39	0.059	0.103	0.161
Sudan	2005	3,225	326	0.210	0.368	0.578
	2010	4,002	503	0.403	0.704	1.107
	2015	5,101	845	0.862	1.508	2.370
	2020	5,464	155	0.170	0.297	0.466
Suriname	2005	12,238	48	0.119	0.208	0.326
	2010	14,293	44	0.127	0.222	0.349
	2015	14,851	30	0.089	0.155	0.244
	2020	14,955	0	0.000	0.000	0.000
Swaziland	2005	8,198	2,088	3.424	5.993	9.417
	2010	8,868	1,039	1.843	3.225	5.067
	2015	9,788	92	0.180	0.315	0.495
	2020	11,005	28	0.062	0.108	0.170
Sweden	2005	34,550	126	0.871	1.524	2.394
	2010	3,8615	51	0.391	0.684	1.074
	2015	40,422	0	0.001	0.001	0.002
	2020	44,720	0	0.002	0.004	0.006

Sources: UNAIDS and ILO GWR databases, ILO calculations.

**Table A-14. Lost earnings due to partial inability to work, attributable to AIDS, over three impact scenarios, in millions of 2010 \$PPP**

Country	2005	Annual wage	Partially unable	Lost earnings		
				Low	Medium	High
Tajikistan	2005	1,628	153	0.050	0.087	0.137
	2010	2,771	249	0.138	0.241	0.379
	2015	4,920	296	0.291	0.510	0.802
	2020	5,806	302	0.351	0.614	0.966
Thailand	2005	8,782	10,631	18.672	32.675	51.347
	2010	9,321	6,629	12.357	21.625	33.982
	2015	12,382	3,827	9.477	16.584	26.060
	2020	14,381	3,269	9.403	16.456	25.859
Togo	2005	1,988	3,390	1.348	2.358	3.706
	2010	2,035	2,761	1.123	1.966	3.089
	2015	2,275	1,779	0.809	1.416	2.225
	2020	2,663	19	0.010	0.017	0.027
Trinidad and Tobago	2005	22,704	98	0.445	0.779	1.225
	2010	26,855	94	0.507	0.888	1.395
	2015	26,874	48	0.261	0.456	0.717
	2020	29,262	22	0.129	0.225	0.354
Tunisia	2005	9,500	1	0.003	0.005	0.008
	2010	11,263	7	0.016	0.029	0.045
	2015	11,601	26	0.060	0.106	0.166
	2020	13,113	2	0.004	0.007	0.011
Turkey	2005	16,814	77	0.259	0.454	0.713
	2010	18,515	146	0.542	0.949	1.491
	2015	24,106	10	0.050	0.087	0.136
	2020	26,958	17	0.091	0.159	0.250

Sources: UNAIDS and ILO GWR databases, ILO calculations.



**Table A-14. Lost earnings due to partial inability to work, attributable to AIDS, over three impact scenarios, in millions of 2010 \$PPP**

Country	2005	Annual wage	Partially unable	Lost earnings		
				Low	Medium	High
Turkmenistan	2005	10,457	94	0.196	0.343	0.539
	2010	7,005	187	0.262	0.458	0.719
	2015	10,094	297	0.600	1.051	1.651
	2020	12,375	445	1.102	1.928	3.030
Uganda	2005	6,516	19,297	25.146	44.006	69.153
	2010	5,216	12,260	12.790	22.383	35.173
	2015	9,867	5,516	10.885	19.049	29.934
	2020	12,016	414	0.996	1.743	2.739
Ukraine	2005	7,479	4,200	6.282	10.994	17.277
	2010	8,978	5,248	9.423	16.491	25.914
	2015	8,096	3,044	4.930	8.627	13.556
	2020	9,497	2,746	5.216	9.128	14.344
United Republic of Tanzania	2005	12,901	43,025	111.015	194.277	305.292
	2010	9,100	20,442	37.205	65.108	102.313
	2015	10,843	8,215	17.816	31.177	48.993
	2020	13,859	215	0.597	1.045	1.642
Uruguay	2005	9,600	104	0.199	0.348	0.547
	2010	12,436	205	0.511	0.894	1.404
	2015	14,343	49	0.141	0.248	0.389
	2020	16,213	0	0.000	0.000	0.000
Uzbekistan	2005	4,079	776	0.633	1.108	1.741
	2010	5,635	1506	1.697	2.969	4.666
	2015	7,576	975	1.477	2.586	4.063
	2020	9,316	164	0.305	0.534	0.838

Sources: UNAIDS and ILO GWR databases, ILO calculations.

**Table A-14. Lost earnings due to partial inability to work, attributable to AIDS, over three impact scenarios, in millions of 2010 \$PPP**

Country	2005	Annual wage	Partially unable	Lost earnings		
				Low	Medium	High
Venezuela	2005	8,321	186	0.310	0.542	0.852
	2010	10,664	353	0.754	1.319	2.073
	2015	11,062	583	1.289	2.255	3.544
	2020	9,598	22	0.042	0.073	0.115
Viet Nam	2005	4,244	4,273	3.627	6.347	9.974
	2010	5,463	5,230	5.715	10.001	15.716
	2015	7,015	2,490	3.493	6.113	9.607
	2020	8,638	3,930	6.790	11.882	18.672
Yemen	2005	4,250	68	0.058	0.102	0.160
	2010	4,581	74	0.067	0.118	0.185
	2015	2,701	103	0.056	0.097	0.153
	2020	2,903	2	0.001	0.002	0.003
Zambia	2005	2,835	21,444	12.158	21.277	33.435
	2010	3,119	8,164	5.092	8.912	14.004
	2015	3,450	2,417	1.668	2.918	4.586
	2020	3,767	1,800	1.356	2.374	3.730
Zimbabwe	2005	10,807	45,565	98.484	172.347	270.832
	2010	9,541	12,040	22.975	40.207	63.182
	2015	12,353	6,954	17.181	30.066	47.247
	2020	12,533	884	2.216	3.878	6.095

Sources: UNAIDS and ILO GWR databases, ILO calculations.

**(7) Impact 3****Table A-15. Care work in AIDS-affected households over three scenarios, in worker-years, group and global levels**

	Care work: low				Care work: medium				Care work: high			
	2005	2010	2015	2020	2005	2010	2015	2020	2005	2010	2015	2020
Care work by regions												
AES	186,100	87,930	36,456	6,126	310,167	146,551	60,761	10,210	434,233	205,171	85,065	14,294
AP	62,186	50,026	31,986	20,832	103,644	83,376	53,311	34,721	145,101	116,727	74,635	48,609
AWC	64,229	49,418	45,754	1,678	107,049	82,363	76,256	2,796	149,868	115,308	106,759	3,914
EECA	644	1,266	1,017	635	1,073	2,111	1,695	1,058	1,502	2,955	2,373	1,481
LAC	11,824	10,623	5,143	710	19,706	17,705	8,572	1,183	27,589	24,787	12,001	1,656
MENA	1,068	1,427	1,763	1,025	1,780	2,379	2,939	1,709	2,492	3,330	4,115	2,392
Care work by income group												
Low	124,536	56,931	31,386	3,388	207,560	94,885	52,310	5,647	290,584	132,839	73,233	7,906
Lower middle	123,159	82,000	67,359	21,519	205,266	136,667	112,265	35,865	287,372	191,333	157,171	50,211
Upper middle	78,355	61,760	23,376	6,098	130,592	102,933	38,959	10,164	182,829	144,106	54,543	14,229
Care work by UNAIDS Fast Track and global totals												
Fast Track	292,071	177,212	105,231	25,903	486,784	295,353	175,385	43,171	681,498	413,494	245,539	60,439
Total	326,051	200,691	122,120	31,005	543,418	334,484	203,534	51,676	760,785	468,278	284,948	72,346

Sources: UNAIDS 2016 estimates, DHS surveys with AIDS module, ILO calculations.

**Table A-16: Care burden in AIDS-affected households over three scenarios, in worker-years, country level**

Country	Year	Partially unable	Fully unable	Households per case	Number of households	Care burden (low)	Care burden (medium)	Care burden (high)
Afghanistan	2005	53	28	0.911	74	29	48	67
	2010	76	39	0.911	104	41	68	95
	2015	111	55	0.911	152	59	99	138
	2020	35	7	0.911	38	15	25	35
Algeria	2005	52	26	0.911	72	28	47	65
	2010	25	5	0.911	27	10	17	24
	2015	1	0	0.911	1	0	1	1
	2020	0	0	0.911	0	0	0	0
Angola	2005	3,400	1,698	0.897	4,574	1,784	2,973	4,162
	2010	3,604	1,409	0.897	4,498	1,754	2,924	4,093
	2015	3,169	978	0.897	3,720	1,451	2,418	3,385
	2020	219	23	0.897	217	84	141	197
Bangladesh	2005	104	70	0.912	159	62	103	144
	2010	228	160	0.912	354	138	230	322
	2015	260	212	0.912	430	168	280	391
	2020	287	241	0.912	481	188	313	438
Belize	2005	27	6	0.901	29	11	19	26
	2010	41	13	0.901	49	19	32	45
	2015	42	16	0.901	52	20	34	47
	2020	3	0	0.901	3	1	2	2
Benin	2005	1,536	818	0.904	2,129	830	1,384	1,937
	2010	742	235	0.904	883	344	574	803
	2015	841	349	0.904	1,076	420	699	979
	2020	3	0	0.904	2	1	2	2
Bhutan	2005	10	4	0.910	12	5	8	11
	2010	29	13	0.910	39	15	25	35
	2015	43	18	0.910	55	22	36	50
	2020	48	19	0.910	61	24	40	55

Sources: UNAIDS 2016 estimates, DHS surveys with AIDS module, ILO calculations.

**Table A-16: Care burden in AIDS-affected households over three scenarios, in worker-years, country level**

Country	Year	Partially unable	Fully unable	Households per case	Number of households	Care burden (low)	Care burden (medium)	Care burden (high)
Bolivia	2005	389	207	0.910	542	212	353	494
	2010	353	161	0.910	468	182	304	426
	2015	291	98	0.910	355	138	230	323
	2020	207	62	0.910	244	95	159	222
Botswana	2005	2,358	294	0.785	2,082	812	1,353	1,894
	2010	557	67	0.785	490	191	318	446
	2015	121	12	0.785	104	41	68	95
	2020	18	1	0.785	15	6	10	13
Brazil	2005	4,449	1,233	0.909	5,163	2,013	3,356	4,698
	2010	7,610	3,893	0.909	10,453	4,077	6,795	9,513
	2015	3,919	720	0.909	4,216	1,644	2,740	3,836
	2020	504	56	0.909	508	198	330	462
Burkina Faso	2005	3,758	1,885	0.960	5,415	2,112	3,520	4,928
	2010	1,647	559	0.960	2,116	825	1,376	1,926
	2015	926	325	0.960	1,200	468	780	1,092
	2020	31	10	0.960	39	15	26	36
Burundi	2005	3,121	1,426	0.819	3,726	1,453	2,422	3,391
	2010	2,354	941	0.819	2,700	1,053	1,755	2,457
	2015	872	287	0.819	950	370	617	864
	2020	42	7	0.819	40	16	26	37
Cambodia	2005	2,979	1,309	0.785	3,366	1,313	2,188	3,063
	2010	1,136	304	0.785	1,131	441	735	1,029
	2015	296	73	0.785	290	113	188	264
	2020	519	259	0.785	611	238	397	556
Cameroon	2005	9,587	4,168	0.909	12,499	4,875	8,125	11,374
	2010	9,555	3,627	0.909	11,979	4,672	7,786	10,901
	2015	11,184	5,176	0.909	14,866	5,798	9,663	13,528
	2020	2,062	630	0.909	2447	954	1591	2227

Sources: UNAIDS 2016 estimates, DHS surveys with AIDS module, ILO calculations.

**Table A-16: Care burden in AIDS-affected households over three scenarios, in worker-years, country level**

Country	Year	Partially unable	Fully unable	Households per case	Number of households	Care burden (low)	Care burden (medium)	Care burden (high)
Cape Verde	2005	73	33	0.960	102	40	67	93
	2010	68	29	0.960	93	36	60	85
	2015	34	11	0.960	43	17	28	39
	2020	2	1	0.960	2	1	1	2
Central African Republic	2005	5,039	2,813	0.819	6,435	2,509	4,182	5,855
	2010	3,809	1,861	0.819	4,647	1,812	3,020	4,228
	2015	2,952	1,456	0.819	3,613	1,409	2,348	3,287
	2020	120	25	0.819	119	47	78	109
Chad	2005	3,606	1,838	0.785	4,274	1,667	2,778	3,889
	2010	2,828	896	0.785	2,924	1,140	1,900	2,661
	2015	2,581	977	0.785	2,793	1,089	1,815	2,541
	2020	85	20	0.785	83	32	54	75
Colombia	2005	1,059	510	0.960	1,506	587	979	1,370
	2010	1,848	810	0.960	2,550	995	1,658	2,321
	2015	137	15	0.960	145	57	95	132
	2020	97	10	0.960	103	40	67	94
Congo	2005	2,122	1,140	0.819	2,673	1,043	1,738	2,433
	2010	1,330	570	0.819	1,557	607	1,012	1,417
	2015	1,377	723	0.819	1,721	671	1,118	1,566
	2020	11	1	0.819	10	4	6	9
Costa Rica	2005	22	2	0.785	18	7	12	17
	2010	22	3	0.785	20	8	13	18
	2015	28	11	0.785	31	12	20	28
	2020	15	2	0.785	13	5	9	12

Sources: UNAIDS 2016 estimates, DHS surveys with AIDS module, ILO calculations.

**Table A-16: Care burden in AIDS-affected households over three scenarios, in worker-years, country level**

Country	Year	Partially unable	Fully unable	Households per case	Number of households	Care burden (low)	Care burden (medium)	Care burden (high)
Côte d'Ivoire	2005	11,482	5,729	0.909	15,639	60,99	10,165	14,232
	2010	1,048	72	0.909	1,018	397	662	926
	2015	7,260	3,672	0.909	9,933	3,874	6,457	9,039
	2020	41	3	0.909	40	16	26	36
Cuba	2005	7	0	0.960	7	3	4	6
	2010	0	0	0.960	0	0	0	0
	2015	6	1	0.960	7	3	4	6
	2020	11	1	0.960	12	5	8	11
Dem. People's Republic of Korea	2005	5	1	0.819	5	2	3	4
	2010	10	3	0.819	11	4	7	10
	2015	15	4	0.819	16	6	10	14
	2020	13	3	0.819	13	5	9	12
Democratic Republic of the Congo	2005	12,077	6,321	0.785	14,444	5,633	9,388	13,144
	2010	10,522	4,822	0.785	12,046	4,698	7,830	10,962
	2015	6,733	2,780	0.785	7,468	2,912	4,854	6,796
	2020	525	72	0.785	469	183	305	426
Djibouti	2005	199	100	0.909	271	106	176	247
	2010	187	97	0.909	258	101	168	235
	2015	144	72	0.909	195	76	127	178
	2020	3	1	0.909	3	1	2	3
Dominican Republic	2005	2,569	1,295	0.960	3,708	1,446	2,410	3,374
	2010	1,842	766	0.960	2,503	976	1,627	2,278
	2015	870	315	0.960	1,137	444	739	1,035
	2020	72	8	0.960	77	30	50	70

Sources: UNAIDS 2016 estimates, DHS surveys with AIDS module, ILO calculations.

**Table A-16: Care burden in AIDS-affected households over three scenarios, in worker-years, country level**

Country	Year	Partially unable	Fully unable	Households per case	Number of households	Care burden (low)	Care burden (medium)	Care burden (high)
Egypt	2005	45	22	0.785	52	20	34	47
	2010	72	25	0.785	76	30	49	69
	2015	100	32	0.785	103	40	67	94
	2020	10	1	0.785	8	3	6	8
El Salvador	2005	79	11	0.909	82	32	53	74
	2010	41	4	0.909	42	16	27	38
	2015	136	41	0.909	161	63	105	146
	2020	8	1	0.909	9	3	6	8
Eritrea	2005	561	289	0.960	816	318	530	742
	2010	295	98	0.960	377	147	245	343
	2015	115	38	0.960	146	57	95	133
	2020	2	0	0.960	2	1	1	2
Ethiopia	2005	30,681	16,562	0.819	38,715	15,099	25,164	35,230
	2010	7,274	1,092	0.819	6,856	2,674	4,456	6,239
	2015	6,312	1,771	0.819	6,623	2,583	4,305	6,027
	2020	600	83	0.819	560	218	364	509
Fiji	2005	4	2	0.785	5	2	3	4
	2010	7	3	0.785	8	3	5	7
	2015	6	2	0.785	6	2	4	6
	2020	16	8	0.785	19	7	12	17
Gabon	2005	532	169	0.909	636	248	414	579
	2010	730	312	0.909	947	369	615	861
	2015	317	70	0.909	351	137	228	320
	2020	24	3	0.909	24	9	16	22
Gambia	2005	320	147	0.960	448	175	291	408
	2010	401	173	0.960	551	215	358	501
	2015	360	158	0.960	497	194	323	452
	2020	7	1	0.960	7	3	5	7

Sources: UNAIDS 2016 estimates, DHS surveys with AIDS module, ILO calculations.



**Table A-16: Care burden in AIDS-affected households over three scenarios, in worker-years, country level**

Country	Year	Partially unable	Fully unable	Households per case	Number of households	Care burden (low)	Care burden (medium)	Care burden (high)
Ghana	2005	7,874	4,266	0.819	9,948	3,880	6,466	9,053
	2010	6,000	2,772	0.819	7,188	2,803	4,672	6,541
	2015	3,735	1,449	0.819	4,248	1,657	2,761	3,866
	2020	104	10	0.819	93	36	60	85
Guatemala	2005	85	12	0.785	76	30	50	69
	2010	0	2	0.785	1	1	1	1
	2015	649	272	0.785	723	282	470	657
	2020	16	1	0.785	13	5	9	12
Guinea	2005	2,126	1,123	0.909	2,953	1,152	1,919	2,687
	2010	1,390	406	0.909	1,632	636	1,061	1,485
	2015	1,604	667	0.909	2,064	805	1,341	1,878
	2020	12	1	0.909	12	5	8	11
Guinea-Bissau	2005	508	249	0.960	726	283	472	661
	2010	628	229	0.960	821	320	534	747
	2015	600	244	0.960	809	316	526	736
	2020	88	17	0.960	102	40	66	92
Guyana	2005	36	7	0.819	36	14	23	33
	2010	16	3	0.819	15	6	10	14
	2015	19	4	0.819	18	7	12	17
	2020	1	0	0.819	1	0	1	1
Haiti	2005	6,467	3,579	0.785	7,887	3,076	5,126	7,177
	2010	4,721	2,324	0.785	5,531	2,157	3,595	5,033
	2015	2,166	1,006	0.785	2,491	971	1,619	2,267
	2020	101	73	0.785	137	53	89	124
Honduras	2005	784	376	0.909	1,054	411	685	959
	2010	487	221	0.909	643	251	418	586
	2015	315	141	0.909	414	162	269	377
	2020	104	39	0.909	130	51	85	119

Sources: UNAIDS 2016 estimates, DHS surveys with AIDS module, ILO calculations.

**Table A-16: Care burden in AIDS-affected households over three scenarios, in worker-years, country level**

Country	Year	Partially unable	Fully unable	Households per case	Number of households	Care burden (low)	Care burden (medium)	Care burden (high)
India	2005	53,934	54,833	0.960	10,4367	40,703	67,838	94,974
	2010	38,153	33,458	0.960	68,714	26,799	44,664	62,530
	2015	22,107	18,428	0.960	38,896	15,169	25,282	35,395
	2020	11,012	7,279	0.960	17,551	6,845	11,408	15,972
Indonesia	2005	2,372	830	0.819	2,624	1,023	1,705	2,388
	2010	8,623	3,138	0.819	9,638	3,759	6,264	8,770
	2015	15,417	6,635	0.819	18,071	7,048	11,746	16,445
	2020	16,881	7,172	0.819	19,711	7,687	12,812	17,937
Islamic Republic of Iran	2005	589	273	0.785	677	264	440	616
	2010	917	455	0.785	1,078	420	700	981
	2015	1,158	582	0.785	1,365	532	887	1,242
	2020	1,355	682	0.785	1,600	624	1,040	1,456
Jamaica	2005	712	333	0.909	950	370	617	864
	2010	528	199	0.909	660	257	429	601
	2015	408	187	0.909	541	211	352	492
	2020	23	3	0.909	23	9	15	21
Kazakhstan	2005	128	55	0.960	176	68	114	160
	2010	210	86	0.960	284	111	184	258
	2015	180	90	0.960	259	101	168	236
	2020	197	47	0.960	234	91	152	213
Kenya	2005	35,327	17,711	0.819	43,463	16,951	28,251	39,552
	2010	12,594	3,711	0.819	13,362	5,211	8,685	12,159
	2015	7,323	1,903	0.819	7,560	2,949	4,914	6,880
	2020	4,850	1,256	0.819	5,004	1,952	3,253	4,554
Kyrgyzstan	2005	31	14	0.785	35	14	23	32
	2010	75	28	0.785	81	32	53	74
	2015	109	38	0.785	115	45	75	105
	2020	117	43	0.785	126	49	82	114

Sources: UNAIDS 2016 estimates, DHS surveys with AIDS module, ILO calculations.

**Table A-16: Care burden in AIDS-affected households over three scenarios, in worker-years, country level**

Country	Year	Partially unable	Fully unable	Households per case	Number of households	Care burden (low)	Care burden (medium)	Care burden (high)
Lao People's Democratic Republic	2005	78	26	0.909	95	37	61	86
	2010	157	58	0.909	195	76	127	178
	2015	139	51	0.909	172	67	112	157
	2020	214	112	0.909	296	115	192	269
Lebanon	2005	23	9	0.960	30	12	20	28
	2010	25	8	0.960	32	12	21	29
	2015	24	8	0.960	30	12	20	28
	2020	2	0	0.960	2	1	2	2
Lesotho	2005	4,638	2,198	0.819	5,602	2,185	3,641	5,097
	2010	2,156	563	0.819	2,228	869	1,448	2,027
	2015	2,649	745	0.819	2,781	1,085	1,808	2,531
	2020	185	21	0.819	169	66	110	153
Liberia	2005	859	465	0.785	1,039	405	675	946
	2010	717	328	0.785	820	320	533	746
	2015	527	280	0.785	633	247	412	576
	2020	5	0	0.785	4	2	3	4
Madagascar	2005	1,431	710	0.909	1,946	759	1,265	1,771
	2010	1,522	865	0.909	2,170	846	1,410	1,974
	2015	1,302	717	0.909	1,834	715	1,192	1,669
	2020	157	32	0.909	171	67	111	156
Malawi	2005	28,067	14,760	0.960	41,095	16,027	26,711	37,396
	2010	13,606	4,111	0.960	17,001	6,630	11,051	15,471
	2015	6,472	1,673	0.960	7,816	3,048	5,080	7,112
	2020	2,574	758	0.960	3,198	1,247	2,079	2,910
Malaysia	2005	2,692	2,067	0.819	3,899	1,521	2,535	3,549
	2010	2,489	1,913	0.819	3,607	1,407	2,345	3,282
	2015	1,729	1,580	0.819	2,711	1,057	1,762	2,467
	2020	1,485	1,348	0.819	2,321	905	1,509	2,112

Sources: UNAIDS 2016 estimates, DHS surveys with AIDS module, ILO calculations.

**Table A-16: Care burden in AIDS-affected households over three scenarios, in worker-years, country level**

Country	Year	Partially unable	Fully unable	Households per case	Number of households	Care burden (low)	Care burden (medium)	Care burden (high)
Maldives	2005	1	0	0.785	1	0	1	1
	2010	1	1	0.785	1	0	1	1
	2015	1	0	0.785	1	0	0	1
	2020	1	0	0.785	1	0	0	1
Mali	2005	1,557	735	0.909	2,082	812	1,353	1,895
	2010	1,007	363	0.909	1,245	486	809	1,133
	2015	1,587	697	0.909	2,076	810	1,349	1,889
	2020	165	25	0.909	172	67	112	157
Mauritania	2005	230	110	0.960	327	128	213	298
	2010	250	109	0.960	345	135	224	314
	2015	237	123	0.960	346	135	225	315
	2020	3	0	0.960	3	1	2	2
Mauritius	2005	222	111	0.819	273	106	177	248
	2010	251	132	0.819	313	122	204	285
	2015	149	66	0.819	176	69	115	160
	2020	0	0	0.819	0	0	0	0
Mexico	2005	2,944	1,272	0.785	3,310	1,291	2,152	3,012
	2010	1,674	511	0.785	1,715	669	1,115	1,561
	2015	769	111	0.785	690	269	449	628
	2020	19	1	0.785	16	6	10	14
Mongolia	2005	0	0	0.909	0	0	0	0
	2010	0	0	0.909	0	0	0	0
	2015	1	0	0.909	1	0	1	1
	2020	3	1	0.909	3	1	2	3
Morocco	2005	167	47	0.960	205	80	133	187
	2010	325	126	0.960	433	169	281	394
	2015	302	120	0.960	405	158	263	368
	2020	29	7	0.960	34	13	22	31

Sources: UNAIDS 2016 estimates, DHS surveys with AIDS module, ILO calculations.

**Table A-16: Care burden in AIDS-affected households over three scenarios, in worker-years, country level**

Country	Year	Partially unable	Fully unable	Households per case	Number of households	Care burden (low)	Care burden (medium)	Care burden (high)
Mozambique	2005	20,488	10,139	0.819	25,098	9,788	16,314	22,839
	2010	16,433	6,501	0.819	18,794	7,330	12,216	17,102
	2015	5,481	2,396	0.819	6,455	2,518	4,196	5,874
	2020	621	274	0.819	734	286	477	668
Myanmar	2005	8,075	3,273	0.785	8,909	3,475	5,791	8,107
	2010	8,016	2,962	0.785	8,618	3,361	5,602	7,843
	2015	3,823	988	0.785	3,777	1,473	2,455	3,437
	2020	656	87	0.785	584	228	379	531
Namibia	2005	3,108	1,227	0.909	3,940	1,536	2,561	3,585
	2010	280	18	0.909	270	105	176	246
	2015	437	72	0.909	462	180	301	421
	2020	9	1	0.909	9	4	6	8
Nepal	2005	906	405	0.960	1,258	491	818	1,145
	2010	1,261	546	0.960	1,734	676	1,127	1,578
	2015	992	479	0.960	1,411	550	917	1,284
	2020	10	1	0.960	10	4	7	9
Nicaragua	2005	250	129	0.819	311	121	202	283
	2010	191	82	0.819	224	87	146	204
	2015	120	41	0.819	132	51	86	120
	2020	73	18	0.819	74	29	48	68
Niger	2005	1,668	856	0.785	1,982	773	1,288	1,804
	2010	1,429	662	0.785	1,642	640	1,067	1,494
	2015	1,116	657	0.785	1,392	543	905	1,267
	2020	31	15	0.785	36	14	23	33
Nigeria	2005	50,947	25,987	0.909	69,910	27,265	45,442	63,618
	2010	49,719	23,298	0.909	66,350	25,877	43,128	60,379
	2015	41,733	19,966	0.909	56,066	21,866	36,443	51,020
	2020	489	84	0.909	521	203	339	474

Sources: UNAIDS 2016 estimates, DHS surveys with AIDS module, ILO calculations.

**Table A-16: Care burden in AIDS-affected households over three scenarios, in worker-years, country level**

Country	Year	Partially unable	Fully unable	Households per case	Number of households	Care burden (low)	Care burden (medium)	Care burden (high)
Pakistan	2005	265	131	0.960	379	148	247	345
	2010	500	214	0.960	685	267	445	623
	2015	1,291	565	0.960	1,781	694	1,157	1,620
	2020	359	55	0.960	396	155	258	361
Panama	2005	217	73	0.819	238	93	155	217
	2010	129	26	0.819	127	50	83	116
	2015	94	22	0.819	96	37	62	87
	2020	47	12	0.819	48	19	31	44
Papua New Guinea	2005	707	348	0.785	829	323	539	754
	2010	551	163	0.785	561	219	364	510
	2015	142	22	0.785	129	50	84	117
	2020	22	2	0.785	19	7	12	17
Paraguay	2005	293	133	0.909	387	151	252	352
	2010	273	84	0.909	324	127	211	295
	2015	317	127	0.909	404	157	262	367
	2020	213	73	0.909	261	102	169	237
Peru	2005	1,625	831	0.960	2,357	919	1,532	2,145
	2010	267	35	0.960	290	113	188	264
	2015	494	138	0.960	607	237	394	552
	2020	0	0	0.960	0	0	0	0
Philippines	2005	78	34	0.819	91	36	59	83
	2010	59	10	0.819	57	22	37	52
	2015	68	25	0.819	76	30	50	69
	2020	11	1	0.819	10	4	7	9
Rwanda	2005	4,669	1,908	0.785	5,163	2,014	3,356	4,699
	2010	870	163	0.785	811	316	527	738
	2015	189	40	0.785	180	70	117	164
	2020	181	37	0.785	172	67	112	156

Sources: UNAIDS 2016 estimates, DHS surveys with AIDS module, ILO calculations.

**Table A-16: Care burden in AIDS-affected households over three scenarios, in worker-years, country level**

Country	Year	Partially unable	Fully unable	Households per case	Number of households	Care burden (low)	Care burden (medium)	Care burden (high)
Senegal	2005	1,033	494	0.909	1,387	541	902	1,263
	2010	474	156	0.909	572	223	372	521
	2015	717	308	0.909	932	363	605	848
	2020	18	2	0.909	17	7	11	16
Sierra Leone	2005	602	264	0.960	831	324	540	756
	2010	847	297	0.960	1,097	428	713	998
	2015	764	329	0.960	1,049	409	682	955
	2020	7	1	0.960	7	3	5	7
Somalia	2005	518	275	0.819	650	253	422	591
	2010	552	289	0.819	690	269	448	627
	2015	538	290	0.819	678	265	441	617
	2020	400	176	0.819	472	184	307	429
South Africa	2005	109,543	53,679	0.785	128,139	49,974	83,290	116,606
	2010	87,296	31,190	0.785	93,018	36,277	60,462	84,647
	2015	29,866	7017	0.785	28,955	11,293	18,821	26,349
	2020	2,085	214	0.785	1,805	704	1,173	1,643
Sri Lanka	2005	13	5	0.909	17	6	11	15
	2010	27	9	0.909	32	13	21	29
	2015	45	16	0.909	55	21	36	50
	2020	39	11	0.909	46	18	30	42
Sudan	2005	326	155	0.960	461	180	300	420
	2010	503	187	0.960	662	258	430	603
	2015	845	406	0.960	1,200	468	780	1,092
	2020	155	20	0.960	169	66	110	153
Suriname	2005	48	16	0.819	53	21	34	48
	2010	44	12	0.819	46	18	30	42
	2015	30	7	0.819	30	12	20	28
	2020	0	0	0.819	0	0	0	0

Sources: UNAIDS 2016 estimates, DHS surveys with AIDS module, ILO calculations.

**Table A-16: Care burden in AIDS-affected households over three scenarios, in worker-years, country level**

Country	Year	Partially unable	Fully unable	Households per case	Number of households	Care burden (low)	Care burden (medium)	Care burden (high)
Swaziland	2005	2,088	827	0.785	2,289	893	1,488	2,083
	2010	1,039	193	0.785	967	377	628	880
	2015	92	8	0.785	78	31	51	71
	2020	28	2	0.785	24	9	15	22
Tajikistan	2005	153	74	0.909	207	81	134	188
	2010	249	127	0.909	341	133	222	311
	2015	296	160	0.909	415	162	269	377
	2020	302	167	0.909	426	166	277	388
Thailand	2005	10,631	4,698	0.960	14,709	5,737	9,561	13,386
	2010	6,629	2,888	0.960	9,132	3,561	5,936	8,310
	2015	3,827	1,450	0.960	5,063	1,975	3,291	4,608
	2020	3,269	1,817	0.960	4,881	1,904	3,173	4,442
Togo	2005	3,390	1,561	0.819	4,057	1,582	2,637	3,692
	2010	2,761	1,100	0.819	3,164	1,234	2,057	2,879
	2015	1,779	788	0.819	2,103	820	1,367	1,914
	2020	19	1	0.819	16	6	11	15
Tunisia	2005	1	0	0.785	1	0	1	1
	2010	7	1	0.785	7	3	4	6
	2015	26	12	0.785	30	12	19	27
	2020	2	0	0.785	1	1	1	1
Turkey	2005	77	31	0.909	99	38	64	90
	2010	146	59	0.909	187	73	121	170
	2015	10	1	0.909	10	4	7	9
	2020	17	2	0.909	17	7	11	15
Turkmenistan	2005	94	44	0.960	132	52	86	121
	2010	187	98	0.960	274	107	178	249
	2015	297	163	0.960	442	172	287	402
	2020	445	242	0.960	659	257	429	600

Sources: UNAIDS 2016 estimates, DHS surveys with AIDS module, ILO calculations.



**Table A-16: Care burden in AIDS-affected households over three scenarios, in worker-years, country level**

Country	Year	Partially unable	Fully unable	Households per case	Number of households	Care burden (low)	Care burden (medium)	Care burden (high)
Uganda	2005	19,297	8,140	0.819	22,484	8,769	14,615	20,460
	2010	12,260	4,719	0.819	13,914	5,427	9,044	12,662
	2015	5,516	1,112	0.819	5,431	2,118	3,530	4,943
	2020	414	38	0.819	371	145	241	337
United Republic of Tanzania	2005	43,025	23,777	0.785	52,443	20,453	34,088	47,724
	2010	20,442	7,912	0.785	22,260	8,681	14,469	20,256
	2015	8,215	2,323	0.785	8,273	3,226	5,377	7,528
	2020	215	19	0.785	184	72	119	167
Uzbekistan	2005	776	336	0.909	1,010	394	657	920
	2010	1,506	798	0.909	2,093	816	1,361	1,905
	2015	975	547	0.909	1,383	539	899	1,258
	2020	164	46	0.909	190	74	124	173
Viet Nam	2005	4,273	2,393	0.960	6,397	2,495	4,158	5,821
	2010	5,230	882	0.960	5,865	2,287	3,812	5,337
	2015	2,490	1,291	0.960	3,627	1,415	2,358	3,301
	2020	3,930	2,490	0.960	6,161	2,403	4,004	5,606
Yemen	2005	68	36	0.819	86	33	56	78
	2010	74	28	0.819	83	32	54	75
	2015	103	42	0.819	119	46	77	108
	2020	2	0	0.819	2	1	1	2
Zambia	2005	21,444	9,554	0.785	24,335	9,491	15,818	22,145
	2010	8,164	1,395	0.785	7,505	2,927	4,878	6,829
	2015	2,417	326	0.785	2,154	840	1,400	1,960
	2020	1,800	245	0.785	1,605	626	1,044	1,461
Zimbabwe	2005	45,565	24,937	0.909	64,065	24,985	41,642	58,299
	2010	12,040	2,802	0.909	13,488	5,260	8,767	12,274
	2015	6,954	1,941	0.909	8,083	3,152	5,254	73,56
	2020	884	451	0.909	1213	473	789	1,104

Sources: UNAIDS 2016 estimates, DHS surveys with AIDS module, ILO calculations.

**(8) Impact 4****Table A-17. Additional chore work in AIDS-affected households over three burden scenarios, in child labour equivalents, group and global levels**

	Chore work: low				Chore work: medium				Chore work: high			
	2005	2010	2015	2020	2005	2010	2015	2020	2005	2010	2015	2020
Chore work by region												
AES	266,680	146,932	83,814	44,913	373,353	205,705	117,340	62,878	426,689	235,092	134,102	71,861
AP	75,367	59,892	41,626	28,498	105,513	83,849	58,276	39,898	120,587	95,827	66,602	45,598
AWC	113,320	92,511	87,667	20,617	158,648	129,516	122,733	28,864	181,311	148,018	140,267	32,988
EECA	732	1,399	1,226	838	1,025	1,959	1,716	1,174	1,172	2,239	1,961	1,342
LAC	14,973	13,234	8,301	3,211	20,962	18,527	11,621	4,495	23,956	21,174	13,281	5,137
MENA	1,425	1,859	2,379	1,410	1,995	2,602	3,331	1,974	2,281	2,974	3,807	2,256
Chore work by income group												
Low	200,880	113,340	72,167	28,450	281,232	158,675	101,034	39,830	321,408	181,343	115,468	45,520
Lower middle	191,030	135,436	116,010	50,746	267,442	189,611	162,413	71,045	305,648	216,698	185,615	81,194
Upper middle	80,587	67,051	36,835	20,292	112,822	93,872	51,570	28,408	128,940	107,282	58,937	32,467
Chore work by UNAIDS Fast Track countries and global totals												
Fast Track	424,130	281,265	197,065	88,260	593,782	393,770	275,891	123,565	678,608	450,023	315,304	141,217
Total	472,497	315,827	225,012	99,488	661,496	442,158	315,017	139,283	755,995	505,324	360,020	159,180

Sources: UNAIDS 2016 estimates, DHS surveys with AIDS module, ILO calculations.

**Table A-18. Additional chore work in AIDS-affected households over three burden scenarios, in child labour equivalents, country level**

Country	Year	Partially unable	Fully unable	Deaths	Households per case	Number of households	Children per household	Number of children	Extra chores (low)	Extra chores (medium)	Extra chores (high)
Afghanistan	2005	53	28	109	0.911	173	2.675	463	55	77	88
	2010	76	39	155	0.911	246	2.675	657	78	110	125
	2015	111	55	226	0.911	358	2.675	956	114	159	182
	2020	35	7	123	0.911	150	2.675	401	48	67	76
Algeria	2005	52	26	109	0.911	171	1.422	243	29	40	46
	2010	25	5	70	0.911	91	1.422	129	15	21	25
	2015	1	0	65	0.911	60	1.422	85	10	14	16
	2020	0	0	42	0.911	38	1.422	54	6	9	10
Angola	2005	3,400	1,698	6,753	0.897	10,632	2.456	26,115	3,109	4,353	4,974
	2010	3,604	1,409	7,598	0.897	11,315	2.456	27,792	3,309	4,632	5,294
	2015	3,169	978	7,620	0.897	10,557	2.456	25,931	3,087	4,322	4,939
	2020	219	23	4,284	0.897	4,060	2.456	9,973	1,187	1,662	1,900
Bangladesh	2005	104	70	220	0.912	360	1.725	620	74	103	118
	2010	228	160	523	0.912	830	1.725	1,432	171	239	273
	2015	260	212	725	0.912	1,091	1.725	1,881	224	314	358
	2020	287	241	816	0.912	1,225	1.725	2,113	252	352	403
Belize	2005	27	6	55	0.901	78	1.944	152	18	25	29
	2010	41	13	80	0.901	122	1.944	237	28	39	45
	2015	42	16	85	0.901	129	1.944	250	30	42	48
	2020	3	0	24	0.901	24	1.944	47	6	8	9
Benin	2005	1,536	818	2,929	0.904	4,778	2.419	11,557	1,376	1,926	2,201
	2010	742	235	1,514	0.904	2,252	2.419	5,447	648	908	1,038
	2015	841	349	1,919	0.904	2,811	2.419	6,800	810	1,133	1,295
	2020	3	0	548	0.904	498	2.419	1,203	143	201	229

Sources: UNAIDS 2016 estimates, DHS surveys with AIDS module, ILO calculations.

**Table A-18. Additional chore work in AIDS-affected households over three burden scenarios, in child labour equivalents, country level**

Country	Year	Partially unable	Fully unable	Deaths	Households per case	Number of households	Children per household	Number of children	Extra chores (low)	Extra chores (medium)	Extra chores (high)
Bhutan	2005	10	4	19	0.910	30	1.601	47	6	8	9
	2010	29	13	58	0.910	91	1.601	146	17	24	28
	2015	43	18	84	0.910	132	1.601	211	25	35	40
	2020	48	19	96	0.910	148	1.601	237	28	40	45
Bolivia	2005	389	207	802	0.910	1,272	1.882	2,394	285	399	456
	2010	353	161	700	0.910	1,105	1.882	2,079	248	347	396
	2015	291	98	645	0.910	941	1.882	1,771	211	295	337
	2020	207	62	492	0.910	692	1.882	1,303	155	217	248
Botswana	2005	2,358	294	7,860	0.785	8,252	1.533	12,651	1,506	2,108	2,410
	2010	557	67	4,022	0.785	3,647	1.533	5,591	666	932	1,065
	2015	121	12	2,521	0.785	2,084	1.533	3,194	380	532	608
	2020	18	1	1,459	0.785	1,160	1.533	1,778	212	296	339
Brazil	2005	4,449	1,233	9,308	0.909	13,621	1.311	17,852	2,125	2,975	3,400
	2010	7,610	3,893	17,941	0.909	26,756	1.311	35,068	4,175	5,845	6,680
	2015	3,919	720	12,024	0.909	15,142	1.311	19,846	2,363	3,308	3,780
	2020	504	56	5,975	0.909	5,937	1.311	7,782	926	1,297	1,482
Burkina Faso	2005	3,758	1,885	7,740	0.960	12,842	2.895	37,182	4,426	6,197	7,082
	2010	1,647	559	3,707	0.960	5,674	2.895	16,427	1,956	2,738	3,129
	2015	926	325	2,679	0.960	3,771	2.895	10,917	1,300	1,820	2,079
	2020	31	10	1,308	0.960	1,294	2.895	3,748	446	625	714
Burundi	2005	3,121	1,426	6,183	0.819	8,793	2.513	22,094	2,630	3,682	4,208
	2010	2,354	941	4,691	0.819	6,544	2.513	16,442	1,957	2,740	3,132
	2015	872	287	2,375	0.819	2,896	2.513	7,276	866	1,213	1,386
	2020	42	7	690	0.819	606	2.513	1,522	181	254	290

Sources: UNAIDS 2016 estimates, DHS surveys with AIDS module, ILO calculations.

**Table A-18. Additional chore work in AIDS-affected households over three burden scenarios, in child labour equivalents, country level**

Country	Year	Partially unable	Fully unable	Deaths	Households per case	Number of households	Children per household	Number of children	Extra chores (low)	Extra chores (medium)	Extra chores (high)
Cambodia	2005	2,979	1,309	7,047	0.789	8,938	1.681	15,023	1,788	2,504	2,861
	2010	1,136	304	2,691	0.789	3,258	1.681	5,475	652	912	1,043
	2015	296	73	1,633	0.789	1,579	1.681	2,654	316	442	505
	2020	519	259	1,741	0.789	1,987	1.681	3,339	397	556	636
Cameroon	2005	9,587	4,168	19,986	0.891	30,065	2.447	73,578	8,759	12,263	14,015
	2010	9,555	3,627	18,013	0.891	27,797	2.447	68,028	8,099	11,338	12,958
	2015	11,184	5,176	23,529	0.891	35,542	2.447	86,983	10,355	14,497	16,568
	2020	2,062	630	9,439	0.891	10,810	2.447	26,455	3,149	4,409	5,039
Cape Verde	2005	73	33	157	0.906	239	1.716	411	49	68	78
	2010	68	29	134	0.906	209	1.716	359	43	60	68
	2015	34	11	87	0.906	119	1.716	205	24	34	39
	2020	2	1	45	0.906	43	1.716	73	9	12	14
Central African Republic	2005	5,039	2,813	9,959	0.883	15,731	2.241	35,253	4,197	5,876	6,715
	2010	3,809	1,861	7,069	0.883	11,251	2.241	25,214	3,002	4,202	4,803
	2015	2,952	1,456	6,031	0.883	9,220	2.241	20,662	2,460	3,444	3,936
	2020	120	25	1,411	0.883	1,374	2.241	3,080	367	513	587
Chad	2005	3,606	1,838	6,931	0.920	11,383	2.530	28,798	3,428	4,800	5,485
	2010	2,828	896	4,829	0.920	7,867	2.530	19,905	2,370	3,317	3,791
	2015	2,581	977	5,536	0.920	8,364	2.530	21,162	2,519	3,527	4,031
	2020	85	20	1,631	0.920	1,597	2.530	4,040	481	673	770

Sources: UNAIDS 2016 estimates, DHS surveys with AIDS module, ILO calculations.

**Table A-18. Additional chore work in AIDS-affected households over three burden scenarios, in child labour equivalents, country level**

Country	Year	Partially unable	Fully unable	Deaths	Households per case	Number of households	Children per household	Number of children	Extra chores (low)	Extra chores (medium)	Extra chores (high)
Colombia	2005	1,059	510	2,676	0.909	3,860	1.373	5,299	631	883	1,009
	2010	1,848	810	3,773	0.909	5,847	1.373	8,026	955	1,338	1,529
	2015	137	15	1,831	0.909	1,803	1.373	2,475	295	412	471
	2020	97	10	1,626	0.909	1,576	1.373	2,164	258	361	412
Congo	2005	2,122	1,140	4,942	0.934	7,664	2.157	16,530	1,968	2,755	3,149
	2010	1,330	570	3,073	0.934	4,646	2.157	10,020	1,193	1,670	1,909
	2015	1,377	723	3,045	0.934	4,806	2.157	10,366	1,234	1,728	1,974
	2020	11	1	1,050	0.934	993	2.157	2,141	255	357	408
Costa Rica	2005	22	2	99	0.910	111	1.261	140	17	23	27
	2010	22	3	147	0.910	157	1.261	198	24	33	38
	2015	28	11	157	0.910	179	1.261	226	27	38	43
	2020	15	2	128	0.910	132	1.261	166	20	28	32
Côte d'Ivoire	2005	11,482	5,729	23,037	0.929	37,406	2.433	91,008	10,834	15,168	17,335
	2010	1,048	72	13,517	0.929	13,604	2.433	33,098	3,940	5,516	6,304
	2015	7,260	3,672	17,219	0.929	26,163	2.433	63,653	7,578	10,609	12,124
	2020	41	3	5,454	0.929	5,109	2.433	12,431	1,480	2,072	2,368
Cuba	2005	7	0	74	0.911	74	0.835	62	7	10	12
	2010	0	0	128	0.911	117	0.835	97	12	16	19
	2015	6	1	163	0.911	155	0.835	129	15	22	25
	2020	11	1	267	0.911	255	0.835	213	25	35	40
Dem. People's Republic of Korea	2005	5	1	19	0.912	22	1.853	42	5	7	8
	2010	10	3	27	0.912	36	1.853	67	8	11	13
	2015	15	4	39	0.912	54	1.853	99	12	17	19
	2020	13	3	41	0.912	52	1.853	97	12	16	18

Sources: UNAIDS 2016 estimates, DHS surveys with AIDS module, ILO calculations.

**Table A-18. Additional chore work in AIDS-affected households over three burden scenarios, in child labour equivalents, country level**

Country	Year	Partially unable	Fully unable	Deaths	Households per case	Number of households	Children per household	Number of children	Extra chores (low)	Extra chores (medium)	Extra chores (high)
Democratic Republic of the Congo	2005	12,077	6,321	26,013	0.947	42,055	2.606	109,595	13,047	18,266	20,875
	2010	10,522	4,822	23,242	0.947	36,539	2.606	95,220	11,336	15,870	18,137
	2015	6,733	2,780	16,301	0.947	24,444	2.606	63,702	7,584	10,617	12,134
	2020	525	72	5,828	0.947	6,084	2.606	15,856	1,888	2,643	3,020
Djibouti	2005	199	100	381	0.902	613	1.144	701	83	117	134
	2010	187	97	362	0.902	583	1.144	666	79	111	127
	2015	144	72	310	0.902	473	1.144	541	64	90	103
	2020	3	1	74	0.902	70	1.144	80	9	13	15
Dominican Republic	2005	2,569	1,295	5,429	0.887	8,241	1.565	12,894	1,535	2,149	2,456
	2010	1,842	766	3,771	0.887	5,657	1.565	8,851	1,054	1,475	1,686
	2015	870	315	2,396	0.887	3,176	1.565	4,969	592	828	946
	2020	72	8	890	0.887	861	1.565	1,347	160	224	257
Ecuador	2005	654	311	1,340	0.910	2,097	1.639	3,437	409	573	655
	2010	410	109	857	0.910	1,252	1.639	2,052	244	342	391
	2015	265	70	801	0.910	1,033	1.639	1,694	202	282	323
	2020	103	20	501	0.910	568	1.639	931	111	155	177
Egypt	2005	45	22	94	0.912	147	1.713	251	30	42	48
	2010	72	25	146	0.912	221	1.713	379	45	63	72
	2015	100	32	225	0.912	326	1.713	558	66	93	106
	2020	10	1	162	0.912	158	1.713	270	32	45	52
El Salvador	2005	79	11	378	0.908	425	1.627	692	82	115	132
	2010	41	4	274	0.908	291	1.627	473	56	79	90
	2015	136	41	352	0.908	481	1.627	782	93	130	149
	2020	8	1	178	0.908	170	1.627	277	33	46	53

Sources: UNAIDS 2016 estimates, DHS surveys with AIDS module, ILO calculations.

**Table A-18. Additional chore work in AIDS-affected households over three burden scenarios, in child labour equivalents, country level**

Country	Year	Partially unable	Fully unable	Deaths	Households per case	Number of households	Children per household	Number of children	Extra chores (low)	Extra chores (medium)	Extra chores (high)
Eritrea	2005	561	289	1,089	0.909	1,763	2.099	3,701	441	617	705
	2010	295	98	549	0.909	856	2.099	1,797	214	299	342
	2015	115	38	313	0.909	423	2.099	889	106	148	169
	2020	2	0	136	0.909	125	2.099	263	31	44	50
Ethiopia	2005	30,681	16,562	58,121	0.908	95,717	1.900	181,834	21,647	30,306	34,635
	2010	7,274	1,092	21,458	0.908	27,093	1.900	51,470	6,127	8,578	9,804
	2015	6,312	1,771	15,454	0.908	21,381	1.900	40,618	4,835	6,770	7,737
	2020	600	83	7,061	0.908	7,035	1.900	13,365	1,591	2,227	2,546
Fiji	2005	4	2	9	0.911	14	1.533	21	3	4	4
	2010	7	3	12	0.911	20	1.533	30	4	5	6
	2015	6	2	14	0.911	20	1.533	30	4	5	6
	2020	16	8	31	0.911	50	1.533	77	9	13	15
Gabon	2005	532	169	1,380	0.954	1,984	2.079	4,126	491	688	786
	2010	730	312	1,598	0.954	2,518	2.079	5,235	623	872	997
	2015	317	70	855	0.954	1,184	2.079	2,462	293	410	469
	2020	24	3	189	0.954	205	2.079	426	51	71	81
Gambia	2005	320	147	592	0.901	954	2.600	2,481	295	414	473
	2010	401	173	790	0.901	1,229	2.600	3,195	380	532	609
	2015	360	158	716	0.901	1,112	2.600	2,890	344	482	551
	2020	7	1	266	0.901	246	2.600	640	76	107	122
Ghana	2005	7,874	4,266	16,966	0.876	25,511	1.849	47,169	5,615	7,862	8,985
	2010	6,000	2,772	13,583	0.876	19,594	1.849	36,228	4,313	6,038	6,901
	2015	3,735	1,449	9,270	0.876	12,669	1.849	23,424	2,789	3,904	4,462
	2020	104	10	3,654	0.876	3,303	1.849	6,106	727	1,018	1,163

Sources: UNAIDS 2016 estimates, DHS surveys with AIDS module, ILO calculations.



**Table A-18. Additional chore work in AIDS-affected households over three burden scenarios, in child labour equivalents, country level**

Country	Year	Partially unable	Fully unable	Deaths	Households per case	Number of households	Children per household	Number of children	Extra chores (low)	Extra chores (medium)	Extra chores (high)
Guatemala	2005	85	12	463	0.908	509	2.153	1,095	130	182	209
	2010	0	2	583	0.908	531	2.153	1,144	136	191	218
	2015	649	272	1,233	0.908	1,956	2.153	4,211	501	702	802
	2020	16	1	573	0.908	536	2.153	1,154	137	192	220
Guinea	2005	2,126	1,123	4,422	0.863	6,622	2.413	15,975	1,902	2,663	3,043
	2010	1,390	406	2,904	0.863	4,057	2.413	9,787	1,165	1,631	1,864
	2015	1,604	667	3,461	0.863	4,948	2.413	11,936	1,421	1,989	2,274
	2020	12	1	1,484	0.863	1,292	2.413	3,117	371	520	594
Guinea-Bissau	2005	508	249	965	0.888	1,529	2.301	3,517	419	586	670
	2010	628	229	1,141	0.888	1,773	2.301	4,079	486	680	777
	2015	600	244	1,303	0.888	1,905	2.301	4,384	522	731	835
	2020	88	17	609	0.888	635	2.301	1,461	174	243	278
Guyana	2005	36	7	115	0.903	144	1.830	263	31	44	50
	2010	16	3	72	0.903	82	1.830	149	18	25	28
	2015	19	4	79	0.903	92	1.830	168	20	28	32
	2020	1	0	48	0.903	44	1.830	81	10	14	15
Haiti	2005	6,467	3,579	14,523	0.945	23,216	1.956	45,404	5,405	7,567	8,648
	2010	4,721	2,324	10,203	0.945	16,298	1.956	31,874	3,795	5,312	6,071
	2015	2,166	1,006	5,981	0.945	8,649	1.956	16,916	2,014	2,819	3,222
	2020	101	73	1,956	0.945	2,013	1.956	3,937	469	656	750
Honduras	2005	784	376	1,642	0.908	2,546	1.954	4,975	592	829	948
	2010	487	221	1,064	0.908	1,610	1.954	3,146	375	524	599
	2015	315	141	759	0.908	1,104	1.954	2,157	257	359	411
	2020	104	39	389	0.908	484	1.954	945	113	158	180

Sources: UNAIDS 2016 estimates, DHS surveys with AIDS module, ILO calculations.

**Table A-18. Additional chore work in AIDS-affected households over three burden scenarios, in child labour equivalents, country level**

Country	Year	Partially unable	Fully unable	Deaths	Households per case	Number of households	Children per household	Number of children	Extra chores (low)	Extra chores (medium)	Extra chores (high)
India	2005	53,934	54,833	106,746	0.910	196,101	2.330	456,917	54,395	76,153	87,032
	2010	38,153	33,458	79,741	0.910	137,720	2.330	320,888	38,201	53,481	61,122
	2015	22,107	18,428	46,765	0.910	79,437	2.330	185,090	22,035	30,848	35,255
	2020	11,012	7,279	27,876	0.910	42,009	2.330	97,881	11,652	16,313	18,644
Indonesia	2005	2,372	830	4,206	0.910	6,739	1.526	10,283	1,224	1,714	1,959
	2010	8,623	3,138	13,806	0.910	23,260	1.526	35,492	4,225	5,915	6,760
	2015	15,417	6,635	27,638	0.910	45,207	1.526	68,979	8,212	11,496	13,139
	2020	16,881	7,172	30,704	0.910	49,817	1.526	76,014	9,049	12,669	14,479
Islamic Republic of Iran	2005	589	273	1,147	0.911	1,830	1.193	2,182	260	364	416
	2010	917	455	1,857	0.911	2,941	1.193	3,508	418	585	668
	2015	1,158	582	2,331	0.911	3,707	1.193	4,421	526	737	842
	2020	1,355	682	2,783	0.911	4,391	1.193	5,236	623	873	997
Jamaica	2005	712	333	1,718	0.901	2,490	1.418	3,531	420	588	673
	2010	528	199	1,114	0.901	1,658	1.418	2,351	280	392	448
	2015	408	187	1,033	0.901	1,467	1.418	2,080	248	347	396
	2020	23	3	327	0.901	318	1.418	451	54	75	86
Kazakhstan	2005	128	55	284	0.911	426	1.237	526	63	88	100
	2010	210	86	413	0.911	645	1.237	798	95	133	152
	2015	180	90	471	0.911	675	1.237	835	99	139	159
	2020	197	47	479	0.911	659	1.237	815	97	136	155
Kenya	2005	35,327	17,711	82,017	0.918	123,983	1.988	246,462	29,341	41,077	46,945
	2010	12,594	3,711	33,640	0.918	45,851	1.988	91,146	10,851	15,191	17,361
	2015	7,323	1,903	24,413	0.918	30,881	1.988	61,388	7,308	10,231	11,693
	2020	4,850	1,256	18,933	0.918	22,986	1.988	45,694	5,440	7,616	8,704

Sources: UNAIDS 2016 estimates, DHS surveys with AIDS module, ILO calculations.

**Table A-18. Additional chore work in AIDS-affected households over three burden scenarios, in child labour equivalents, country level**

Country	Year	Partially unable	Fully unable	Deaths	Households per case	Number of households	Children per household	Number of children	Extra chores (low)	Extra chores (medium)	Extra chores (high)
Kyrgyzstan	2005	31	14	64	0.911	99	1.592	157	19	26	30
	2010	75	28	152	0.911	232	1.592	370	44	62	70
	2015	109	38	210	0.911	325	1.592	517	62	86	99
	2020	117	43	241	0.911	365	1.592	582	69	97	111
Lao People's Democratic Republic	2005	78	26	156	0.910	236	2.023	478	57	80	91
	2010	157	58	289	0.910	458	2.023	927	110	155	177
	2015	139	51	330	0.910	473	2.023	956	114	159	182
	2020	214	112	470	0.910	724	2.023	1,465	174	244	279
Lebanon	2005	23	9	51	0.911	75	1.209	91	11	15	17
	2010	25	8	52	0.911	77	1.209	93	11	16	18
	2015	24	8	59	0.911	83	1.209	100	12	17	19
	2020	2	0	31	0.911	30	1.209	37	4	6	7
Lesotho	2005	4,638	2,198	9,675	0.863	14,242	1.777	25,304	3,012	4,217	4,820
	2010	2,156	563	6,312	0.863	7,790	1.777	13,840	1,648	2,307	2,636
	2015	2,649	745	7,140	0.863	9,087	1.777	16,144	1,922	2,691	3,075
	2020	185	21	4,206	0.863	3,806	1.777	6,762	805	1,127	1,288
Liberia	2005	859	465	1,834	0.955	3,015	2.256	6,802	810	1,134	1,296
	2010	717	328	1,601	0.955	2,525	2.256	5,698	678	950	1,085
	2015	527	280	1,238	0.955	1,952	2.256	4,404	524	734	839
	2020	5	0	372	0.955	360	2.256	813	97	136	155
Madagascar	2005	1,431	710	2,516	0.910	4,237	2.165	9,172	1,092	1,529	1,747
	2010	1,522	865	2,994	0.910	4,896	2.165	10,598	1,262	1,766	2,019
	2015	1,302	717	2,680	0.910	4,273	2.165	9,251	1,101	1,542	1,762
	2020	157	32	927	0.910	1,015	2.165	2,197	262	366	418

Sources: UNAIDS 2016 estimates, DHS surveys with AIDS module, ILO calculations.

**Table A-18. Additional chore work in AIDS-affected households over three burden scenarios, in child labour equivalents, country level**

Country	Year	Partially unable	Fully unable	Deaths	Households per case	Number of households	Children per household	Number of children	Extra chores (low)	Extra chores (medium)	Extra chores (high)
Malawi	2005	28,067	14,760	55,642	0.825	81,198	2.336	189,643	22,577	31,607	36,122
	2010	13,606	4,111	34,819	0.825	43,322	2.336	101,181	12,045	16,864	19,273
	2015	6,472	1,673	21,070	0.825	24,091	2.336	56,266	6,698	9,378	10,717
	2020	2,574	758	15,627	0.825	15,634	2.336	36,514	4,347	6,086	6,955
Malaysia	2005	2,692	2,067	7,236	0.907	10,885	1.432	15,589	1,856	2,598	2,969
	2010	2,489	1,913	6,942	0.907	10,294	1.432	14,743	1,755	2,457	2,808
	2015	1,729	1,580	6,074	0.907	8,514	1.432	12,194	1,452	2,032	2,323
	2020	1,485	1,348	4,789	0.907	6,916	1.432	9,905	1,179	1,651	1,887
Maldives	2005	1	0	2	0.912	3	1.514	4	1	1	1
	2010	1	1	2	0.912	3	1.514	5	1	1	1
	2015	1	0	2	0.912	2	1.514	3	0	1	1
	2020	1	0	1	0.912	2	1.514	3	0	1	1
Mali	2005	1,557	735	3,408	0.932	5,309	2.744	14,567	1,734	2,428	2,775
	2010	1,007	363	2,306	0.932	3,424	2.744	9,396	1,119	1,566	1,790
	2015	1,587	697	3,315	0.932	5,216	2.744	14,312	1,704	2,385	2,726
	2020	165	25	1,379	0.932	1,461	2.744	4,008	477	668	763
Mauritania	2005	230	110	464	0.907	731	2.270	1,658	197	276	316
	2010	250	109	477	0.907	759	2.270	1,724	205	287	328
	2015	237	123	515	0.907	795	2.270	1,804	215	301	344
	2020	3	0	149	0.907	138	2.270	312	37	52	60
Mauritius	2005	222	111	453	0.905	711	0.846	602	72	100	115
	2010	251	132	541	0.905	835	0.846	707	84	118	135
	2015	149	66	352	0.905	513	0.846	434	52	72	83
	2020	0	0	126	0.905	115	0.846	97	12	16	18

Sources: UNAIDS 2016 estimates, DHS surveys with AIDS module, ILO calculations.

**Table A-18. Additional chore work in AIDS-affected households over three burden scenarios, in child labour equivalents, country level**

Country	Year	Partially unable	Fully unable	Deaths	Households per case	Number of households	Children per household	Number of children	Extra chores (low)	Extra chores (medium)	Extra chores (high)
Mexico	2005	2,944	1,272	6,186	0.910	9,467	1.593	15,077	1,795	2,513	2,872
	2010	1,674	511	4,230	0.910	5,837	1.593	9,297	1,107	1,549	1,771
	2015	769	111	3,256	0.910	3,763	1.593	5,993	713	999	1,142
	2020	19	1	1,967	0.910	1,808	1.593	2,880	343	480	549
Mongolia	2005	0	0	1	0.912	1	1.407	1	0	0	0
	2010	0	0	2	0.912	2	1.407	2	0	0	0
	2015	1	0	3	0.912	4	1.407	5	1	1	1
	2020	3	1	7	0.912	10	1.407	14	2	2	3
Morocco	2005	167	47	314	0.911	481	1.476	710	85	118	135
	2010	325	126	608	0.911	964	1.476	1,424	170	237	271
	2015	302	120	649	0.911	975	1.476	1,439	171	240	274
	2020	29	7	228	0.911	240	1.476	354	42	59	67
Mozambique	2005	20,488	10,139	40,266	0.817	57,901	2.093	121,209	14,430	20,201	23,087
	2010	16,433	6,501	39,602	0.817	51,075	2.093	106,920	12,729	17,820	20,366
	2015	5,481	2,396	31,403	0.817	32,082	2.093	67,160	7,995	11,193	12,792
	2020	621	274	21,913	0.817	18,629	2.093	38,997	4,643	6,500	7,428
Myanmar	2005	8,075	3,273	14,035	0.908	23,036	1.581	36,426	4,336	6,071	6,938
	2010	8,016	2,962	14,175	0.908	22,827	1.581	36,096	4,297	6,016	6,875
	2015	3,823	988	8,638	0.908	12,206	1.581	19,301	2,298	3,217	3,676
	2020	656	87	4,416	0.908	4,683	1.581	7,404	881	1,234	1,410
Namibia	2005	3,108	1,227	7,277	0.832	9,661	1.838	17,761	2,114	2,960	3,383
	2010	280	18	3,237	0.832	2,940	1.838	5,406	644	901	1,030
	2015	437	72	2,204	0.832	2,257	1.838	4,149	494	691	790
	2020	9	1	1,561	0.832	1,307	1.838	2,403	286	401	458

Sources: UNAIDS 2016 estimates, DHS surveys with AIDS module, ILO calculations.

**Table A-18. Additional chore work in AIDS-affected households over three burden scenarios, in child labour equivalents, country level**

Country	Year	Partially unable	Fully unable	Deaths	Households per case	Number of households	Children per household	Number of children	Extra chores (low)	Extra chores (medium)	Extra chores (high)
Nepal	2005	906	405	1,567	0.910	2,620	2.035	5,332	635	889	1,016
	2010	1,261	546	2,189	0.910	3,638	2.035	7,402	881	1,234	1,410
	2015	992	479	1,969	0.910	3,130	2.035	6,370	758	1,062	1,213
	2020	10	1	467	0.910	435	2.035	885	105	147	168
Nicaragua	2005	250	129	514	0.910	813	1.766	1,435	171	239	273
	2010	191	82	378	0.910	593	1.766	1,047	125	175	199
	2015	120	41	276	0.910	397	1.766	702	84	117	134
	2020	73	18	212	0.910	275	1.766	486	58	81	93
Niger	2005	1,668	856	3,075	0.869	4,868	2.944	14,329	1,706	2,388	2,729
	2010	1,429	662	2,644	0.869	4,116	2.944	12,116	1,442	2,019	2,308
	2015	1,116	657	2,280	0.869	3,523	2.944	10,370	1,235	1,728	1,975
	2020	31	15	651	0.869	606	2.944	1,783	212	297	340
Nigeria	2005	50,947	25,987	106,049	0.891	163,092	2.450	399,518	47,562	66,586	76,099
	2010	49,719	23,298	102,829	0.891	156,731	2.450	383,935	45,707	63,989	73,130
	2015	41,733	19,966	97,968	0.891	142,310	2.450	348,610	41,501	58,102	66,402
	2020	489	84	35,737	0.891	32,363	2.450	79,278	9,438	13,213	15,101
Pakistan	2005	265	131	509	0.911	824	1.974	1,627	194	271	310
	2010	500	214	993	0.911	1,556	1.974	3,071	366	512	585
	2015	1,291	565	2,437	0.911	3,912	1.974	7,722	919	1,287	1,471
	2020	359	55	1,652	0.911	1,882	1.974	3,715	442	619	708
Panama	2005	217	73	478	0.907	697	1.517	1,058	126	176	201
	2010	129	26	337	0.907	446	1.517	677	81	113	129
	2015	94	22	363	0.907	435	1.517	660	79	110	126
	2020	47	12	293	0.907	319	1.517	484	58	81	92

Sources: UNAIDS 2016 estimates, DHS surveys with AIDS module, ILO calculations.

**Table A-18. Additional chore work in AIDS-affected households over three burden scenarios, in child labour equivalents, country level**

Country	Year	Partially unable	Fully unable	Deaths	Households per case	Number of households	Children per household	Number of children	Extra chores (low)	Extra chores (medium)	Extra chores (high)
Papua New Guinea	2005	707	348	1,311	0.907	2,146	2.144	4,603	548	767	877
	2010	551	163	932	0.907	1,493	2.144	3,202	381	534	610
	2015	142	22	527	0.907	626	2.144	1,343	160	224	256
	2020	22	2	294	0.907	289	2.144	619	74	103	118
Paraguay	2005	293	133	611	0.909	943	1.760	1,660	198	277	316
	2010	273	84	505	0.909	784	1.760	1,379	164	230	263
	2015	317	127	646	0.909	991	1.760	1,745	208	291	332
	2020	213	73	513	0.909	727	1.760	1,279	152	213	244
Peru	2005	1,625	831	3,278	0.910	5,217	1.555	8,112	966	1,352	1,545
	2010	267	35	1,672	0.910	1,796	1.555	2,793	332	465	532
	2015	494	138	1,322	0.910	1,778	1.555	2,765	329	461	527
	2020	0	0	703	0.910	640	1.555	995	119	166	190
Philippines	2005	78	34	155	0.911	243	1.816	442	53	74	84
	2010	59	10	214	0.911	258	1.816	469	56	78	89
	2015	68	25	431	0.911	478	1.816	868	103	145	165
	2020	11	1	458	0.911	429	1.816	779	93	130	148
Rwanda	2005	4,669	1,908	11,010	0.801	14,082	1.944	27,376	3,259	4,563	5,214
	2010	870	163	3,501	0.801	3,631	1.944	7,058	840	1,176	1,344
	2015	189	40	2,220	0.801	1,961	1.944	3,813	454	635	726
	2020	181	37	1,930	0.801	1,720	1.944	3,344	398	557	637
Senegal	2005	1,033	494	1,829	0.988	3,316	2.434	8,072	961	1,345	1,538
	2010	474	156	1,131	0.988	1,739	2.434	4,234	504	706	806
	2015	717	308	1,542	0.988	2,536	2.434	6,174	735	1,029	1,176
	2020	18	2	614	0.988	625	2.434	1,522	181	254	290

Sources: UNAIDS 2016 estimates, DHS surveys with AIDS module, ILO calculations.

**Table A-18. Additional chore work in AIDS-affected households over three burden scenarios, in child labour equivalents, country level**

Country	Year	Partially unable	Fully unable	Deaths	Households per case	Number of households	Children per household	Number of children	Extra chores (low)	Extra chores (medium)	Extra chores (high)
Sierra Leone	2005	602	264	1,159	0.893	1,808	2.708	4,895	583	816	932
	2010	847	297	1,624	0.893	2,470	2.708	6,690	796	1,115	1,274
	2015	764	329	1,768	0.893	2,554	2.708	6,915	823	1,153	1,317
	2020	7	1	542	0.893	490	2.708	1,328	158	221	253
Somalia	2005	518	275	1,007	0.908	1,635	2.681	4,384	522	731	835
	2010	552	289	1,105	0.908	1,768	2.681	4,740	564	790	903
	2015	538	290	1,105	0.908	1,756	2.681	4,708	560	785	897
	2020	400	176	773	0.908	1,226	2.681	3,286	391	548	626
South Africa	2005	109,543	53,679	234,910	0.806	320,826	1.399	448,767	53,425	74,794	85,479
	2010	87,296	31,190	200,387	0.806	256,957	1.399	359,428	42,789	59,905	68,462
	2015	29,866	7,017	118,289	0.806	125,042	1.399	174,908	20,822	29,151	33,316
	2020	2,085	214	79,263	0.806	65,725	1.399	91,936	10,945	15,323	17,512
Sri Lanka	2005	13	5	32	0.912	46	1.313	61	7	10	12
	2010	27	9	53	0.912	81	1.313	106	13	18	20
	2015	45	16	96	0.912	142	1.313	187	22	31	36
	2020	39	11	99	0.912	137	1.313	179	21	30	34
Sudan	2005	326	155	647	0.911	1,027	2.335	2,399	286	400	457
	2010	503	187	920	0.911	1,466	2.335	3,423	408	571	652
	2015	845	406	1,723	0.911	2,707	2.335	6,321	752	1,053	1,204
	2020	155	20	722	0.911	817	2.335	1,908	227	318	363
Suriname	2005	48	16	111	0.904	159	1.500	239	28	40	46
	2010	44	12	108	0.904	149	1.500	223	27	37	42
	2015	30	7	102	0.904	126	1.500	189	23	32	36
	2020	0	0	35	0.904	31	1.500	47	6	8	9

Sources: UNAIDS 2016 estimates, DHS surveys with AIDS module, ILO calculations.



**Table A-18. Additional chore work in AIDS-affected households over three burden scenarios, in child labour equivalents, country level**

Country	Year	Partially unable	Fully unable	Deaths	Households per case	Number of households	Children per household	Number of children	Extra chores (low)	Extra chores (medium)	Extra chores (high)
Swaziland	2005	2,088	827	4,557	0.775	5,793	2.311	13,388	1,594	2,231	2,550
	2010	1,039	193	3,152	0.775	3,399	2.311	7,854	935	1,309	1,496
	2015	92	8	2,342	0.775	1,893	2.311	4,374	521	729	833
	2020	28	2	2,317	0.775	1,820	2.311	4,205	501	701	801
Tajikistan	2005	153	74	328	0.910	505	1.934	977	116	163	186
	2010	249	127	542	0.910	835	1.934	1,614	192	269	307
	2015	296	160	659	0.910	1,014	1.934	1,961	233	327	374
	2020	302	167	690	0.910	1,055	1.934	2,040	243	340	388
Thailand	2005	10,631	4,698	30,354	0.906	41,368	0.931	38,498	4,583	6,416	7,333
	2010	6,629	2,888	17,424	0.906	24,396	0.931	22,703	2,703	3,784	4,324
	2015	3,827	1,450	12,516	0.906	16,112	0.931	14,993	1,785	2,499	2,856
	2020	3,269	1,817	11,188	0.906	14,737	0.931	13,715	1,633	2,286	2,612
Togo	2005	3,390	1,561	6,723	0.894	10,432	2.383	24,862	2,960	4,144	4,736
	2010	2,761	1,100	6,029	0.894	8,838	2.383	21,063	2,507	3,510	4,012
	2015	1,779	788	4,132	0.894	5,986	2.383	14,265	1,698	2,378	2,717
	2020	19	1	1,558	0.894	1,410	2.383	3,361	400	560	640
Tunisia	2005	1	0	11	0.911	11	1.185	13	2	2	3
	2010	7	1	20	0.911	26	1.185	31	4	5	6
	2015	26	12	58	0.911	87	1.185	103	12	17	20
	2020	2	0	27	0.911	26	1.185	31	4	5	6
Turkey	2005	77	31	159	0.911	244	1.402	342	41	57	65
	2010	146	59	271	0.911	434	1.402	608	72	101	116
	2015	10	1	255	0.911	242	1.402	340	40	57	65
	2020	17	2	327	0.911	315	1.402	442	53	74	84

Sources: UNAIDS 2016 estimates, DHS surveys with AIDS module, ILO calculations.

**Table A-18. Additional chore work in AIDS-affected households over three burden scenarios, in child labour equivalents, country level**

Country	Year	Partially unable	Fully unable	Deaths	Households per case	Number of households	Children per household	Number of children	Extra chores (low)	Extra chores (medium)	Extra chores (high)
Turkmenistan	2005	94	44	190	0.910	299	1.547	462	55	77	88
	2010	187	98	388	0.910	612	1.547	947	113	158	180
	2015	297	163	618	0.910	980	1.547	1,517	181	253	289
	2020	445	242	933	0.910	1,474	1.547	2,280	271	380	434
Uganda	2005	19,297	8,140	46,027	0.863	63,432	2.470	156,656	18,649	26,109	29,839
	2010	12,260	4,719	32,615	0.863	42,822	2.470	105,757	12,590	17,626	20,144
	2015	5,516	1,112	20,331	0.863	23,278	2.470	57,488	6,844	9,581	10,950
	2020	414	38	13,942	0.863	12,429	2.470	30,695	3,654	5,116	5,847
United Republic of Tanzania	2005	43,025	23,777	82,757	0.882	131,916	2.500	329,801	39,262	54,967	62,819
	2010	20,442	7,912	51,329	0.882	70,284	2.500	175,715	20,918	29,286	33,470
	2015	8,215	2,323	28,150	0.882	34,124	2.500	85,314	10,156	14,219	16,250
	2020	215	19	12,263	0.882	11,023	2.500	27,558	3,281	4,593	5,249
Uzbekistan	2005	776	336	1,526	0.910	2,400	1.537	3,688	439	615	703
	2010	1,506	798	3,003	0.910	4,828	1.537	7,418	883	1,236	1,413
	2015	975	547	2,145	0.910	3,336	1.537	5,126	610	854	976
	2020	164	46	424	0.910	576	1.537	885	105	147	169
Viet Nam	2005	4,273	2,393	8,453	0.414	6,263	1.206	7,552	899	1,259	1,438
	2010	5,230	882	6,931	0.414	5,403	1.206	6,515	776	1,086	1,241
	2015	2,490	1,291	8,190	0.414	4,958	1.206	5,979	712	996	1,139
	2020	3,930	2,490	10,534	0.414	7,023	1.206	8,468	1,008	1,411	1,613
Yemen	2005	68	36	145	0.911	227	2.357	536	64	89	102
	2010	74	28	161	0.911	239	2.357	562	67	94	107
	2015	103	42	205	0.911	319	2.357	752	90	125	143
	2020	2	0	84	0.911	79	2.357	186	22	31	35

Sources: UNAIDS 2016 estimates, DHS surveys with AIDS module, ILO calculations.

**Table A-18. Additional chore work in AIDS-affected households over three burden scenarios, in child labour equivalents, country level**

Country	Year	Partially unable	Fully unable	Deaths	Households per case	Number of households	Children per household	Number of children	Extra chores (low)	Extra chores (medium)	Extra chores (high)
Zambia	2005	21,444	9,554	41,485	0.819	59,347	2.395	142,134	16,921	23,689	27,073
	2010	8,164	1,395	18,420	0.819	22,909	2.395	54,866	6,532	9,144	10,451
	2015	2,417	326	13,439	0.819	13,250	2.395	31,733	3,778	5,289	6,044
	2020	1,800	245	14,184	0.819	13,288	2.395	31,824	3,789	5,304	6,062
Zimbabwe	2005	45,565	24,937	87,310	0.784	123,758	2.145	265,446	31,601	44,241	50,561
	2010	12,040	2,802	39,057	0.784	42,269	2.145	90,662	10,793	15,110	17,269
	2015	6,954	1,941	23,035	0.784	25,040	2.145	53,708	6,394	8,951	10,230
	2020	884	451	15,395	0.784	13,120	2.145	28,141	3,350	4,690	5,360

Sources: UNAIDS 2016 estimates, DHS surveys with AIDS module, ILO calculations.

## (9) Impact 5

**Table A-19. Children in AIDS-affected households with impaired education across two burden scenarios, group and global levels**

	Impaired education: medium				Impaired education: high			
	2005	2010	2015	2020	2005	2010	2015	2020
Impaired education by region								
AES	112,006	61,712	35,202	18,863	224,012	123,423	70,404	37,727
AP	31,654	25,155	17,483	11,969	63,308	50,309	34,966	23,939
AWC	47,594	38,855	36,820	8,659	95,189	77,710	73,640	17,318
EECA	308	588	515	352	615	1,175	1,030	704
LAC	6,288	5,558	3,486	1,348	12,577	11,116	6,973	2,697
MENA	599	781	999	592	1,197	1,561	1,998	1,184
Impaired education by income group								
Low	84,370	47,603	30,310	11,949	168,739	95,205	60,621	23,898
Lower middle	80,233	56,883	48,724	21,313	160,465	113,766	97,448	42,627
Upper middle	33,847	28,162	15,471	8,522	67,693	56,323	30,942	17,045
Impaired education by UNAIDS Fast Track and global totals								
Fast Track	178,135	118,131	82,767	37,069	356,269	236,262	165,535	74,139
Total	198,449	132,647	94,505	41,785	396,898	265,295	189,010	83,570

Sources: UNAIDS 2016 estimates, DHS surveys with AIDS module, ILO calculations.

**Table A-20. Children in AIDS-affected households with impaired education across two burden scenarios, country level**

Country	Year	Partially unable to work	Fully unable to work	Deaths	Households per case	Number of households	Children per household	Number of children	Impaired education (medium)	Impaired education (high)
Afghanistan	2005	53	28	109	0.911	173	2.675	463	23	46
	2010	76	39	155	0.911	246	2.675	657	33	66
	2015	111	55	226	0.911	358	2.675	956	48	96
	2020	35	7	123	0.911	150	2.675	401	20	40
Algeria	2005	52	26	109	0.911	171	1.422	243	12	24
	2010	25	5	70	0.911	91	1.422	129	6	13
	2015	1	0	65	0.911	60	1.422	85	4	9
	2020	0	0	42	0.911	38	1.422	54	3	5
Angola	2005	3,400	1,698	6,753	0.897	10,632	2.456	26,115	1,306	2,612
	2010	3,604	1,409	7,598	0.897	11,315	2.456	27,792	1,390	2,779
	2015	3,169	978	7,620	0.897	10,557	2.456	25,931	1,297	2,593
	2020	219	23	4,284	0.897	4,060	2.456	9,973	499	997
Bangladesh	2005	104	70	220	0.912	360	1.725	620	31	62
	2010	228	160	523	0.912	830	1.725	1,432	72	143
	2015	260	212	725	0.912	1,091	1.725	1,881	94	188
	2020	287	241	816	0.912	1,225	1.725	2,113	106	211
Belize	2005	27	6	55	0.901	78	1.944	152	8	15
	2010	41	13	80	0.901	122	1.944	237	12	24
	2015	42	16	85	0.901	129	1.944	250	12	25
	2020	3	0	24	0.901	24	1.944	47	2	5
Benin	2005	1,536	818	2,929	0.904	4,778	2.419	11,557	578	1,156
	2010	742	235	1,514	0.904	2,252	2.419	5,447	272	545
	2015	841	349	1,919	0.904	2,811	2.419	6,800	340	680
	2020	3	0	548	0.904	498	2.419	1,203	60	120

Sources: UNAIDS 2016 estimates, DHS surveys with AIDS module, ILO calculations.

**Table A-20. Children in AIDS-affected households with impaired education across two burden scenarios, country level**

Country	Year	Partially unable to work	Fully unable to work	Deaths	Households per case	Number of households	Children per household	Number of children	Impaired education (medium)	Impaired education (high)
Bhutan	2005	10	4	19	0.910	30	1.601	47	2	5
	2010	29	13	58	0.910	91	1.601	146	7	15
	2015	43	18	84	0.910	132	1.601	211	11	21
	2020	48	19	96	0.910	148	1.601	237	12	24
Bolivia	2005	389	207	802	0.910	1,272	1.882	2,394	120	239
	2010	353	161	700	0.910	1,105	1.882	2,079	104	208
	2015	291	98	645	0.910	941	1.882	1,771	89	177
	2020	207	62	492	0.910	692	1.882	1,303	65	130
Botswana	2005	2,358	294	7,860	0.785	8,252	1.533	12,651	633	1,265
	2010	557	67	4,022	0.785	3,647	1.533	5,591	280	559
	2015	121	12	2,521	0.785	2,084	1.533	3,194	160	319
	2020	18	1	1,459	0.785	1,160	1.533	1,778	89	178
Brazil	2005	4,449	1,233	9,308	0.909	13,621	1.311	17,852	893	1,785
	2010	7,610	3,893	17,941	0.909	26,756	1.311	35,068	1,753	3,507
	2015	3,919	720	12,024	0.909	15,142	1.311	19,846	992	1,985
	2020	504	56	5,975	0.909	5,937	1.311	7,782	389	778
Burkina Faso	2005	3,758	1,885	7,740	0.960	12,842	2.895	37,182	1,859	3,718
	2010	1,647	559	3,707	0.960	5,674	2.895	16,427	821	1,643
	2015	926	325	2,679	0.960	3,771	2.895	10,917	546	1,092
	2020	31	10	1,308	0.960	1,294	2.895	3,748	187	375
Burundi	2005	3,121	1,426	6,183	0.819	8,793	2.513	22,094	1,105	2,209
	2010	2,354	941	4,691	0.819	6,544	2.513	16,442	822	1,644
	2015	872	287	2,375	0.819	2,896	2.513	7,276	364	728
	2020	42	7	690	0.819	606	2.513	1,522	76	152

Sources: UNAIDS 2016 estimates, DHS surveys with AIDS module, ILO calculations.

**Table A-20. Children in AIDS-affected households with impaired education across two burden scenarios, country level**

Country	Year	Partially unable to work	Fully unable to work	Deaths	Households per case	Number of households	Children per household	Number of children	Impaired education (medium)	Impaired education (high)
Cambodia	2005	2,979	1,309	7,047	0.789	8,938	1.681	15,023	751	1,502
	2010	1,136	304	2,691	0.789	3,258	1.681	5,475	274	547
	2015	296	73	1,633	0.789	1,579	1.681	2,654	133	265
	2020	519	259	1,741	0.789	1,987	1.681	3,339	167	334
Cameroon	2005	9,587	4,168	19,986	0.891	30,065	2.447	73,578	3,679	7,358
	2010	9,555	3,627	18,013	0.891	27,797	2.447	68,028	3,401	6,803
	2015	11,184	5,176	23,529	0.891	35,542	2.447	86,983	4,349	8,698
	2020	2,062	630	9,439	0.891	10,810	2.447	26,455	1,323	2,646
Cape Verde	2005	73	33	157	0.906	239	1.716	411	21	41
	2010	68	29	134	0.906	209	1.716	359	18	36
	2015	34	11	87	0.906	119	1.716	205	10	20
	2020	2	1	45	0.906	43	1.716	73	4	7
Central African Republic	2005	5,039	2,813	9,959	0.883	15,731	2.241	35,253	1,763	3,525
	2010	3,809	1,861	7,069	0.883	11,251	2.241	25,214	1,261	2,521
	2015	2,952	1,456	6,031	0.883	9,220	2.241	20,662	1,033	2,066
	2020	120	25	1,411	0.883	1,374	2.241	3,080	154	308
Chad	2005	3,606	1,838	6,931	0.920	11,383	2.530	28,798	1,440	2,880
	2010	2,828	896	4,829	0.920	7,867	2.530	19,905	995	1,990
	2015	2,581	977	5,536	0.920	8,364	2.530	21,162	1,058	2,116
	2020	85	20	1,631	0.920	1,597	2.530	4,040	202	404

Sources: UNAIDS 2016 estimates, DHS surveys with AIDS module, ILO calculations.

**Table A-20. Children in AIDS-affected households with impaired education across two burden scenarios, country level**

Country	Year	Partially unable to work	Fully unable to work	Deaths	Households per case	Number of households	Children per household	Number of children	Impaired education (medium)	Impaired education (high)
Colombia	2005	1,059	510	2,676	0.909	3,860	1.373	5,299	265	530
	2010	1,848	810	3,773	0.909	5,847	1.373	8,026	401	803
	2015	137	15	1,831	0.909	1,803	1.373	2,475	124	247
	2020	97	10	1,626	0.909	1,576	1.373	2,164	108	216
Congo	2005	2,122	1,140	4,942	0.934	7,664	2.157	16,530	827	1,653
	2010	1,330	570	3,073	0.934	4,646	2.157	10,020	501	1,002
	2015	1,377	723	3,045	0.934	4,806	2.157	10,366	518	1,037
	2020	11	1	1,050	0.934	993	2.157	2,141	107	214
Costa Rica	2005	22	2	99	0.910	111	1.261	140	7	14
	2010	22	3	147	0.910	157	1.261	198	10	20
	2015	28	11	157	0.910	179	1.261	226	11	23
	2020	15	2	128	0.910	132	1.261	166	8	17
Côte d'Ivoire	2005	11,482	5,729	23,037	0.929	37,406	2.433	91,008	4,550	9,101
	2010	1,048	72	13,517	0.929	13,604	2.433	33,098	1,655	3,310
	2015	7,260	3,672	17,219	0.929	26,163	2.433	63,653	3,183	6,365
	2020	41	3	5,454	0.929	5,109	2.433	12,431	622	1,243
Cuba	2005	7	0	74	0.911	74	0.835	62	3	6
	2010	0	0	128	0.911	117	0.835	97	5	10
	2015	6	1	163	0.911	155	0.835	129	6	13
	2020	11	1	267	0.911	255	0.835	213	11	21
Dem. People's Republic of Korea	2005	5	1	19	0.912	22	1.853	42	2	4
	2010	10	3	27	0.912	36	1.853	67	3	7
	2015	15	4	39	0.912	54	1.853	99	5	10
	2020	13	3	41	0.912	52	1.853	97	5	10

Sources: UNAIDS 2016 estimates, DHS surveys with AIDS module, ILO calculations.

**Table A-20. Children in AIDS-affected households with impaired education across two burden scenarios, country level**

Country	Year	Partially unable to work	Fully unable to work	Deaths	Households per case	Number of households	Children per household	Number of children	Impaired education (medium)	Impaired education (high)
Democratic Republic of the Congo	2005	12,077	6,321	26,013	0.947	42,055	2.606	109,595	5,480	10,960
	2010	10,522	4,822	23,242	0.947	36,539	2.606	95,220	4,761	9,522
	2015	6,733	2,780	16,301	0.947	24,444	2.606	63,702	3,185	6,370
	2020	525	72	5,828	0.947	6,084	2.606	15,856	793	1,586
Djibouti	2005	199	100	381	0.902	613	1.144	701	35	70
	2010	187	97	362	0.902	583	1.144	666	33	67
	2015	144	72	310	0.902	473	1.144	541	27	54
	2020	3	1	74	0.902	70	1.144	80	4	8
Dominican Republic	2005	2,569	1,295	5,429	0.887	8,241	1.565	12,894	645	1,289
	2010	1,842	766	3,771	0.887	5,657	1.565	8,851	443	885
	2015	870	315	2,396	0.887	3,176	1.565	4,969	248	497
	2020	72	8	890	0.887	861	1.565	1,347	67	135
Ecuador	2005	654	311	1,340	0.910	2,097	1.639	3,437	172	344
	2010	410	109	857	0.910	1,252	1.639	2,052	103	205
	2015	265	70	801	0.910	1,033	1.639	1,694	85	169
	2020	103	20	501	0.910	568	1.639	931	47	93
Egypt	2005	45	22	94	0.912	147	1.713	251	13	25
	2010	72	25	146	0.912	221	1.713	379	19	38
	2015	100	32	225	0.912	326	1.713	558	28	56
	2020	10	1	162	0.912	158	1.713	270		
El Salvador	2005	79	11	378	0.908	425	1.627	692	35	69
	2010	41	4	274	0.908	291	1.627	473	24	47
	2015	136	41	352	0.908	481	1.627	782	39	78
	2020	8	1	178	0.908	170	1.627	277	14	28

Sources: UNAIDS 2016 estimates, DHS surveys with AIDS module, ILO calculations.



**Table A-20. Children in AIDS-affected households with impaired education across two burden scenarios, country level**

Country	Year	Partially unable to work	Fully unable to work	Deaths	Households per case	Number of households	Children per household	Number of children	Impaired education (medium)	Impaired education (high)
Eritrea	2005	561	289	1,089	0.909	1,763	2.099	3,701	185	370
	2010	295	98	549	0.909	856	2.099	1,797	90	180
	2015	115	38	313	0.909	423	2.099	889	44	89
	2020	2	0	136	0.909	125	2.099	263	13	26
Ethiopia	2005	30,681	16,562	58,121	0.908	95,717	1.900	181,834	9,092	18,183
	2010	7,274	1,092	21,458	0.908	27,093	1.900	51,470	2,573	5,147
	2015	6,312	1,771	15,454	0.908	21,381	1.900	40,618	2,031	4,062
	2020	600	83	7,061	0.908	7,035	1.900	13,365	668	1,336
Fiji	2005	4	2	9	0.911	14	1.533	21	1	2
	2010	7	3	12	0.911	20	1.533	30	2	3
	2015	6	2	14	0.911	20	1.533	30	2	3
	2020	16	8	31	0.911	50	1.533	77	4	8
Gabon	2005	532	169	1,380	0.954	1,984	2.079	4,126	206	413
	2010	730	312	1,598	0.954	2,518	2.079	5,235	262	523
	2015	317	70	855	0.954	1,184	2.079	2,462	123	246
	2020	24	3	189	0.954	205	2.079	426	21	43
Gambia	2005	320	147	592	0.901	954	2.600	2,481	124	248
	2010	401	173	790	0.901	1,229	2.600	3,195	160	319
	2015	360	158	716	0.901	1,112	2.600	2,890	145	289
	2020	7	1	266	0.901	246	2.600	640	32	64
Ghana	2005	7,874	4,266	16,966	0.876	25,511	1.849	47,169	2,358	4,717
	2010	6,000	2,772	13,583	0.876	19,594	1.849	36,228	1,811	3,623
	2015	3,735	1,449	9,270	0.876	12,669	1.849	23,424	1,171	2,342
	2020	104	10	3,654	0.876	3,303	1.849	6,106	305	611

Sources: UNAIDS 2016 estimates, DHS surveys with AIDS module, ILO calculations.

**Table A-20. Children in AIDS-affected households with impaired education across two burden scenarios, country level**

Country	Year	Partially unable to work	Fully unable to work	Deaths	Households per case	Number of households	Children per household	Number of children	Impaired education (medium)	Impaired education (high)
Guatemala	2005	85	12	463	0.908	509	2.153	1,095	55	109
	2010	0	2	583	0.908	531	2.153	1,144	57	114
	2015	649	272	1,233	0.908	1,956	2.153	4,211	211	421
	2020	16	1	573	0.908	536	2.153	1,154	58	115
Guinea	2005	2,126	1,123	4,422	0.863	6,622	2.413	15,975	799	1,598
	2010	1,390	406	2,904	0.863	4,057	2.413	9,787	489	979
	2015	1,604	667	3,461	0.863	4,948	2.413	11,936	597	1,194
	2020	12	1	1,484	0.863	1,292	2.413	3,117	156	312
Guinea-Bissau	2005	508	249	965	0.888	1,529	2.301	3,517	176	352
	2010	628	229	1,141	0.888	1,773	2.301	4,079	204	408
	2015	600	244	1,303	0.888	1,905	2.301	4,384	219	438
	2020	88	17	609	0.888	635	2.301	1,461	73	146
Guyana	2005	36	7	115	0.903	144	1.830	263	13	26
	2010	16	3	72	0.903	82	1.830	149	7	15
	2015	19	4	79	0.903	92	1.830	168	8	17
	2020	1	0	48	0.903	44	1.830	81	4	8
Haiti	2005	6,467	3,579	14,523	0.945	23,216	1.956	45,404	2,270	4,540
	2010	4,721	2,324	10,203	0.945	16,298	1.956	31,874	1,594	3,187
	2015	2,166	1,006	5,981	0.945	8,649	1.956	16,916	846	1,692
	2020	101	73	1,956	0.945	2,013	1.956	3,937	197	394
Honduras	2005	784	376	1,642	0.908	2,546	1.954	4,975	249	497
	2010	487	221	1,064	0.908	1,610	1.954	3,146	157	315
	2015	315	141	759	0.908	1,104	1.954	2,157	108	216
	2020	104	39	389	0.908	484	1.954	945	47	95

Sources: UNAIDS 2016 estimates, DHS surveys with AIDS module, ILO calculations.

**Table A-20. Children in AIDS-affected households with impaired education across two burden scenarios, country level**

Country	Year	Partially unable to work	Fully unable to work	Deaths	Households per case	Number of households	Children per household	Number of children	Impaired education (medium)	Impaired education (high)
India	2005	53,934	54,833	106,746	0.910	196,101	2.330	456,917	22,846	45,692
	2010	38,153	33,458	79,741	0.910	137,720	2.330	320,888	16,044	32,089
	2015	22,107	18,428	46,765	0.910	79,437	2.330	185,090	9,255	18,509
	2020	11,012	7,279	27,876	0.910	42,009	2.330	97,881	4,894	9,788
Indonesia	2005	2,372	830	4,206	0.910	6,739	1.526	10,283	514	1,028
	2010	8,623	3,138	13,806	0.910	23,260	1.526	35,492	1,775	3,549
	2015	15,417	6,635	27,638	0.910	45,207	1.526	68,979	3,449	6,898
	2020	16,881	7,172	30,704	0.910	49,817	1.526	76,014	3,801	7,601
Islamic Republic of Iran	2005	589	273	1,147	0.911	1,830	1.193	2,182	109	218
	2010	917	455	1,857	0.911	2,941	1.193	3,508	175	351
	2015	1,158	582	2,331	0.911	3,707	1.193	4,421	221	442
	2020	1,355	682	2,783	0.911	4,391	1.193	5,236	262	524
Jamaica	2005	712	333	1,718	0.901	2,490	1.418	3,531	177	353
	2010	528	199	1,114	0.901	1,658	1.418	2,351	118	235
	2015	408	187	1,033	0.901	1,467	1.418	2,080	104	208
	2020	23	3	327	0.901	318	1.418	451	23	45
Kazakhstan	2005	128	55	284	0.911	426	1.237	526	26	53
	2010	210	86	413	0.911	645	1.237	798	40	80
	2015	180	90	471	0.911	675	1.237	835	42	84
	2020	197	47	479	0.911	659	1.237	815	41	81
Kenya	2005	35,327	17,711	82,017	0.918	123,983	1.988	246,462	12,323	24,646
	2010	12,594	3,711	33,640	0.918	45,851	1.988	91,146	4,557	9,115
	2015	7,323	1,903	24,413	0.918	30,881	1.988	61,388	3,069	6,139
	2020	4,850	1,256	18,933	0.918	22,986	1.988	45,694	2,285	4,569

Sources: UNAIDS 2016 estimates, DHS surveys with AIDS module, ILO calculations.

**Table A-20. Children in AIDS-affected households with impaired education across two burden scenarios, country level**

Country	Year	Partially unable to work	Fully unable to work	Deaths	Households per case	Number of households	Children per household	Number of children	Impaired education (medium)	Impaired education (high)
Kyrgyzstan	2005	31	14	64	0.911	99	1.592	157	8	16
	2010	75	28	152	0.911	232	1.592	370	18	37
	2015	109	38	210	0.911	325	1.592	517	26	52
	2020	117	43	241	0.911	365	1.592	582	29	58
Lao People's Democratic Republic	2005	78	26	156	0.910	236	2.023	478	24	48
	2010	157	58	289	0.910	458	2.023	927	46	93
	2015	139	51	330	0.910	473	2.023	956	48	96
	2020	214	112	470	0.910	724	2.023	1,465	73	147
Lebanon	2005	23	9	51	0.911	75	1.209	91	5	9
	2010	25	8	52	0.911	77	1.209	93	5	9
	2015	24	8	59	0.911	83	1.209	100	5	10
	2020	2	0	31	0.911	30	1.209	37	2	4
Lesotho	2005	4,638	2,198	9,675	0.863	14,242	1.777	25,304	1,265	2,530
	2010	2,156	563	6,312	0.863	7,790	1.777	13,840	692	1,384
	2015	2,649	745	7,140	0.863	9,087	1.777	16,144	807	1,614
	2020	185	21	4,206	0.863	3,806	1.777	6,762	338	676
Liberia	2005	859	465	1,834	0.955	3,015	2.256	6,802	340	680
	2010	717	328	1,601	0.955	2,525	2.256	5,698	285	570
	2015	527	280	1,238	0.955	1,952	2.256	4,404	220	440
	2020	5	0	372	0.955	360	2.256	813	41	81
Madagascar	2005	1,431	710	2,516	0.910	4,237	2.165	9,172	459	917
	2010	1,522	865	2,994	0.910	4,896	2.165	10,598	530	1,060
	2015	1,302	717	2,680	0.910	4,273	2.165	9,251	463	925
	2020	157	32	927	0.910	1,015	2.165	2,197	110	220

Sources: UNAIDS 2016 estimates, DHS surveys with AIDS module, ILO calculations.

**Table A-20. Children in AIDS-affected households with impaired education across two burden scenarios, country level**

Country	Year	Partially unable to work	Fully unable to work	Deaths	Households per case	Number of households	Children per household	Number of children	Impaired education (medium)	Impaired education (high)
Malawi	2005	28,067	14,760	55,642	0.825	81,198	2.336	189,643	9,482	18,964
	2010	13,606	4,111	34,819	0.825	43,322	2.336	101,181	5,059	10,118
	2015	6,472	1,673	21,070	0.825	24,091	2.336	56,266	2,813	5,627
	2020	2,574	758	15,627	0.825	15,634	2.336	36,514	1,826	3,651
Malaysia	2005	2,692	2,067	7,236	0.907	10,885	1.432	15,589	779	1,559
	2010	2,489	1,913	6,942	0.907	10,294	1.432	14,743	737	1,474
	2015	1,729	1,580	6,074	0.907	8,514	1.432	12,194	610	1,219
	2020	1,485	1,348	4,789	0.907	6,916	1.432	9,905	495	990
Maldives	2005	1	0	2	0.912	3	1.514	4	0	0
	2010	1	1	2	0.912	3	1.514	5	0	0
	2015	1	0	2	0.912	2	1.514	3	0	0
	2020	1	0	1	0.912	2	1.514	3	0	0
Mali	2005	1,557	735	3,408	0.932	5,309	2.744	14,567	728	1,457
	2010	1,007	363	2,306	0.932	3,424	2.744	9,396	470	940
	2015	1,587	697	3,315	0.932	5,216	2.744	14,312	716	1,431
	2020	165	25	1,379	0.932	1,461	2.744	4,008	200	401
Mauritania	2005	230	110	464	0.907	731	2.270	1,658	83	166
	2010	250	109	477	0.907	759	2.270	1,724	86	172
	2015	237	123	515	0.907	795	2.270	1,804	90	180
	2020	3	0	149	0.907	138	2.270	312	16	31
Mauritius	2005	222	111	453	0.905	711	0.846	602	30	60
	2010	251	132	541	0.905	835	0.846	707	35	71
	2015	149	66	352	0.905	513	0.846	434	22	43
	2020	0	0	126	0.905	115	0.846	97	5	10

Sources: UNAIDS 2016 estimates, DHS surveys with AIDS module, ILO calculations.

**Table A-20. Children in AIDS-affected households with impaired education across two burden scenarios, country level**

Country	Year	Partially unable to work	Fully unable to work	Deaths	Households per case	Number of households	Children per household	Number of children	Impaired education (medium)	Impaired education (high)
Mexico	2005	2,944	1,272	6,186	0.910	9,467	1.593	15,077	754	1,508
	2010	1,674	511	4,230	0.910	5,837	1.593	9,297	465	930
	2015	769	111	3,256	0.910	3,763	1.593	5,993	300	599
	2020	19	1	1,967	0.910	1,808	1.593	2,880	144	288
Mongolia	2005	0	0	1	0.912	1	1.407	1	0	0
	2010	0	0	2	0.912	2	1.407	2	0	0
	2015	1	0	3	0.912	4	1.407	5	0	1
	2020	3	1	7	0.912	10	1.407	14	1	1
Morocco	2005	167	47	314	0.911	481	1.476	710	36	71
	2010	325	126	608	0.911	964	1.476	1,424	71	142
	2015	302	120	649	0.911	975	1.476	1,439	72	144
	2020	29	7	228	0.911	240	1.476	354	18	35
Mozambique	2005	20,488	10,139	40,266	0.817	57,901	2.093	121,209	6,060	12,121
	2010	16,433	6,501	39,602	0.817	51,075	2.093	106,920	5,346	10,692
	2015	5,481	2,396	31,403	0.817	32,082	2.093	67,160	3,358	6,716
	2020	621	274	21,913	0.817	18,629	2.093	38,997	1,950	3,900
Myanmar	2005	8,075	3,273	14,035	0.908	23,036	1.581	36,426	1,821	3,643
	2010	8,016	2,962	14,175	0.908	22,827	1.581	36,096	1,805	3,610
	2015	3,823	988	8,638	0.908	12,206	1.581	19,301	965	1,930
	2020	656	87	4,416	0.908	4,683	1.581	7,404	370	740
Namibia	2005	3,108	1,227	7,277	0.832	9,661	1.838	17,761	888	1,776
	2010	280	18	3,237	0.832	2,940	1.838	5,406	270	541
	2015	437	72	2,204	0.832	2,257	1.838	4,149	207	415
	2020	9	1	1,561	0.832	1,307	1.838	2,403	120	240

Sources: UNAIDS 2016 estimates, DHS surveys with AIDS module, ILO calculations.

**Table A-20. Children in AIDS-affected households with impaired education across two burden scenarios, country level**

Country	Year	Partially unable to work	Fully unable to work	Deaths	Households per case	Number of households	Children per household	Number of children	Impaired education (medium)	Impaired education (high)
Nepal	2005	906	405	1,567	0.910	2,620	2.035	5,332	267	533
	2010	1,261	546	2,189	0.910	3,638	2.035	7,402	370	740
	2015	992	479	1,969	0.910	3,130	2.035	6,370	319	637
	2020	10	1	467	0.910	435	2.035	885	44	88
Nicaragua	2005	250	129	514	0.910	813	1.766	1,435	72	144
	2010	191	82	378	0.910	593	1.766	1,047	52	105
	2015	120	41	276	0.910	397	1.766	702	35	70
	2020	73	18	212	0.910	275	1.766	486	24	49
Niger	2005	1,668	856	3,075	0.869	4,868	2.944	14,329	716	1,433
	2010	1,429	662	2,644	0.869	4,116	2.944	12,116	606	1,212
	2015	1,116	657	2,280	0.869	3,523	2.944	10,370	518	1,037
	2020	31	15	651	0.869	606	2.944	1,783	89	178
Nigeria	2005	50,947	25,987	106,049	0.891	163,092	2.450	399,518	19,976	39,952
	2010	49,719	23,298	102,829	0.891	156,731	2.450	383,935	19,197	38,393
	2015	41,733	19,966	97,968	0.891	142,310	2.450	348,610	17,431	34,861
	2020	489	84	35,737	0.891	32,363	2.450	79,278	3,964	7,928
Pakistan	2005	265	131	509	0.911	824	1.974	1,627	81	163
	2010	500	214	993	0.911	1,556	1.974	3,071	154	307
	2015	1,291	565	2,437	0.911	3,912	1.974	7,722	386	772
	2020	359	55	1,652	0.911	1,882	1.974	3,715	186	371
Panama	2005	217	73	478	0.907	697	1.517	1,058	53	106
	2010	129	26	337	0.907	446	1.517	677	34	68
	2015	94	22	363	0.907	435	1.517	660	33	66
	2020	47	12	293	0.907	319	1.517	484	24	48

Sources: UNAIDS 2016 estimates, DHS surveys with AIDS module, ILO calculations.

**Table A-20. Children in AIDS-affected households with impaired education across two burden scenarios, country level**

Country	Year	Partially unable to work	Fully unable to work	Deaths	Households per case	Number of households	Children per household	Number of children	Impaired education (medium)	Impaired education (high)
Papua New Guinea	2005	707	348	1,311	0.907	2,146	2.144	4,603	230	460
	2010	551	163	932	0.907	1,493	2.144	3,202	160	320
	2015	142	22	527	0.907	626	2.144	1,343	67	134
	2020	22	2	294	0.907	289	2.144	619	31	62
Paraguay	2005	293	133	611	0.909	943	1.760	1,660	83	166
	2010	273	84	505	0.909	784	1.760	1,379	69	138
	2015	317	127	646	0.909	991	1.760	1,745	87	174
	2020	213	73	513	0.909	727	1.760	1,279	64	128
Peru	2005	1,625	831	3,278	0.910	5,217	1.555	8,112	406	811
	2010	267	35	1,672	0.910	1,796	1.555	2,793	140	279
	2015	494	138	1,322	0.910	1,778	1.555	2,765	138	276
	2020	0	0	703	0.910	640	1.555	995	50	100
Philippines	2005	78	34	155	0.911	243	1.816	442	22	44
	2010	59	10	214	0.911	258	1.816	469	23	47
	2015	68	25	431	0.911	478	1.816	868	43	87
	2020	11	1	458	0.911	429	1.816	779	39	78
Rwanda	2005	4,669	1,908	11,010	0.801	14,082	1.944	27,376	1,369	2,738
	2010	870	163	3,501	0.801	3,631	1.944	7,058	353	706
	2015	189	40	2,220	0.801	1,961	1.944	3,813	191	381
	2020	181	37	1,930	0.801	1,720	1.944	3,344	167	334
Senegal	2005	1,033	494	1,829	0.988	3,316	2.434	8,072	404	807
	2010	474	156	1,131	0.988	1,739	2.434	4,234	212	423
	2015	717	308	1,542	0.988	2,536	2.434	6,174	309	617
	2020	18	2	614	0.988	625	2.434	1,522	76	152

Sources: UNAIDS 2016 estimates, DHS surveys with AIDS module, ILO calculations.



**Table A-20. Children in AIDS-affected households with impaired education across two burden scenarios, country level**

Country	Year	Partially unable to work	Fully unable to work	Deaths	Households per case	Number of households	Children per household	Number of children	Impaired education (medium)	Impaired education (high)
Sierra Leone	2005	602	264	1,159	0.893	1,808	2.708	4,895	245	489
	2010	847	297	1,624	0.893	2,470	2.708	6,690	334	669
	2015	764	329	1,768	0.893	2,554	2.708	6,915	346	692
	2020	7	1	542	0.893	490	2.708	1,328	66	133
Somalia	2005	518	275	1,007	0.908	1,635	2.681	4,384	219	438
	2010	552	289	1,105	0.908	1,768	2.681	4,740	237	474
	2015	538	290	1,105	0.908	1,756	2.681	4,708	235	471
	2020	400	176	773	0.908	1,226	2.681	3,286	164	329
South Africa	2005	109,543	53,679	234,910	0.806	320,826	1.399	448,767	22,438	44,877
	2010	87,296	31,190	200,387	0.806	256,957	1.399	359,428	17,971	35,943
	2015	29,866	7,017	118,289	0.806	125,042	1.399	174,908	8,745	17,491
	2020	2,085	214	79,263	0.806	65,725	1.399	91,936	4,597	9,194
Sri Lanka	2005	13	5	32	0.912	46	1.313	61	3	6
	2010	27	9	53	0.912	81	1.313	106	5	11
	2015	45	16	96	0.912	142	1.313	187	9	19
	2020	39	11	99	0.912	137	1.313	179	9	18
Sudan	2005	326	155	647	0.911	1,027	2.335	2,399	120	240
	2010	503	187	920	0.911	1,466	2.335	3,423	171	342
	2015	845	406	1,723	0.911	2,707	2.335	6,321	316	632
	2020	155	20	722	0.911	817	2.335	1,908	95	191
Suriname	2005	48	16	111	0.904	159	1.500	239	12	24
	2010	44	12	108	0.904	149	1.500	223	11	22
	2015	30	7	102	0.904	126	1.500	189	9	19
	2020	0	0	35	0.904	31	1.500	47	2	5

Sources: UNAIDS 2016 estimates, DHS surveys with AIDS module, ILO calculations.

**Table A-20. Children in AIDS-affected households with impaired education across two burden scenarios, country level**

Country	Year	Partially unable to work	Fully unable to work	Deaths	Households per case	Number of households	Children per household	Number of children	Impaired education (medium)	Impaired education (high)
Swaziland	2005	2,088	827	4,557	0.775	5,793	2.311	13,388	669	1,339
	2010	1,039	193	3,152	0.775	3,399	2.311	7,854	393	785
	2015	92	8	2,342	0.775	1,893	2.311	4,374	219	437
	2020	28	2	2,317	0.775	1,820	2.311	4,205	210	420
Tajikistan	2005	153	74	328	0.910	505	1.934	977	49	98
	2010	249	127	542	0.910	835	1.934	1,614	81	161
	2015	296	160	659	0.910	1,014	1.934	1,961	98	196
	2020	302	167	690	0.910	1,055	1.934	2,040	102	204
Thailand	2005	10,631	4,698	30,354	0.906	41,368	0.931	38,498	1,925	3,850
	2010	6,629	2,888	17,424	0.906	24,396	0.931	22,703	1,135	2,270
	2015	3,827	1,450	12,516	0.906	16,112	0.931	14,993	750	1,499
	2020	3,269	1,817	11,188	0.906	14,737	0.931	13,715	686	1,371
Togo	2005	3,390	1,561	6,723	0.894	10,432	2.383	24,862	1,243	2,486
	2010	2,761	1,100	6,029	0.894	8,838	2.383	21,063	1,053	2,106
	2015	1,779	788	4,132	0.894	5,986	2.383	14,265	713	1,427
	2020	19	1	1,558	0.894	1,410	2.383	3,361	168	336
Tunisia	2005	1	0	11	0.911	11	1.185	13	1	1
	2010	7	1	20	0.911	26	1.185	31	2	3
	2015	26	12	58	0.911	87	1.185	103	5	10
	2020	2	0	27	0.911	26	1.185	31	2	3
Turkey	2005	77	31	159	0.911	244	1.402	342	17	34
	2010	146	59	271	0.911	434	1.402	608	30	61
	2015	10	1	255	0.911	242	1.402	340	17	34
	2020	17	2	327	0.911	315	1.402	442	22	44
Turkmenistan	2005	94	44	190	0.910	299	1.547	462	23	46
	2010	187	98	388	0.910	612	1.547	947	47	95
	2015	297	163	618	0.910	980	1.547	1,517	76	152
	2020	445	242	933	0.910	1,474	1.547	2,280	114	228

Sources: UNAIDS 2016 estimates, DHS surveys with AIDS module, ILO calculations.

**Table A-20. Children in AIDS-affected households with impaired education across two burden scenarios, country level**

Country	Year	Partially unable to work	Fully unable to work	Deaths	Households per case	Number of households	Children per household	Number of children	Impaired education (medium)	Impaired education (high)
Uganda	2005	19,297	8,140	46,027	0.863	63,432	2.470	156,656	7,833	15,666
	2010	12,260	4,719	32,615	0.863	42,822	2.470	105,757	5,288	10,576
	2015	5,516	1,112	20,331	0.863	23,278	2.470	57,488	2,874	5,749
	2020	414	38	13,942	0.863	12,429	2.470	30,695	1,535	3,070
United Republic of Tanzania	2005	43,025	23,777	82,757	0.882	131,916	2.500	329,801	16,490	32,980
	2010	20,442	7,912	51,329	0.882	70,284	2.500	175,715	8,786	17,572
	2015	8,215	2,323	28,150	0.882	34,124	2.500	85,314	4,266	8,531
	2020	215	19	12,263	0.882	11,023	2.500	27,558	1,378	2,756
Uzbekistan	2005	776	336	1,526	0.910	2,400	1.537	3,688	184	369
	2010	1,506	798	3,003	0.910	4,828	1.537	7,418	371	742
	2015	975	547	2,145	0.910	3,336	1.537	5,126	256	513
	2020	164	46	424	0.910	576	1.537	885	44	88
Viet Nam	2005	4,273	2,393	8,453	0.414	6,263	1.206	7,552	378	755
	2010	5,230	882	6,931	0.414	5,403	1.206	6,515	326	651
	2015	2,490	1,291	8,190	0.414	4,958	1.206	5,979	299	598
	2020	3,930	2,490	10,534	0.414	7,023	1.206	8,468	423	847
Yemen	2005	68	36	145	0.911	227	2.357	536	27	54
	2010	74	28	161	0.911	239	2.357	562	28	56
	2015	103	42	205	0.911	319	2.357	752	38	75
	2020	2	0	84	0.911	79	2.357	186	9	19
Zambia	2005	21,444	9,554	41,485	0.819	59,347	2.395	142,134	7,107	14,213
	2010	8,164	1,395	18,420	0.819	22,909	2.395	54,866	2,743	5,487
	2015	2,417	326	13,439	0.819	13,250	2.395	31,733	1,587	3,173
	2020	1,800	245	14,184	0.819	13,288	2.395	31,824	1,591	3,182
Zimbabwe	2005	45,565	24,937	87,310	0.784	123,758	2.145	265,446	13,272	26,545
	2010	12,040	2,802	39,057	0.784	42,269	2.145	90,662	4,533	9,066
	2015	6,954	1,941	23,035	0.784	25,040	2.145	53,708	2,685	5,371
	2020	884	451	15,395	0.784	13,120	2.145	28,141	1,407	2,814

Sources: UNAIDS 2016 estimates, DHS surveys with AIDS module, ILO calculations.

### (f) Sensitivity analysis

Since we do not have a body of research to draw on, we have hypothesized that 50 per cent of all individuals with CD4 counts below 100 will be fully unable to work, and that an additional 50 per cent of all those with CD4 counts from 100–199 will be partially unable to work. Here we consider the effect of changing this percentage (for both impairments) to either 25 per cent or 75 per cent. Of course, the direct calculations for the numbers experiencing these work impairments at the national, group and global levels will be simple multiples of our baseline numbers; half as great for 25 per cent, half again greater for 75 per cent. However, some of our impacts depend on combinations of impairment and mortality, and these will vary in ways that cannot be predicted a priori, since mortality/morbidity ratios differ across countries and time. Hence, for these impacts, we report comparisons between 25 per cent, 50 per cent and 75 per cent morbidity factors at the global level.

#### (1) Impact 1. Lost earnings in billions 2010 \$PPP for the three scenarios are given in table A-21:

**Table A-21: Lost earnings due to death or full inability to work in billions of 2010 \$PPP under three scenarios of the percent of those with CD4 < 100 unable to work**

	2005	2010	2015	2020
at .25	15.3	11.5	9.0	6.9
at .50	16.9	12.4	9.5	7.2
at .75	18.6	13.3	10.0	7.4

Sources: UNAIDS and ILO GWR databases, ILO calculations.

#### (2) Impact 4. Extra chores in thousands of child labour equivalents for the three scenarios (assuming the 'medium' impact on children's time) is given in table A-22:

**Table A-22: Extra chores in years of child labour equivalents under three scenarios of the proportion partially and fully unable to work due to CD4 < 200**

	2005	2010	2015	2020
at .25	519,383	357,399	260,824	127,398
at .5	661,496	442,158	315,017	139,283
at .75	803,609	526,918	369,210	151,168

Sources: UNAIDS 2016 estimates, DHS surveys with AIDS module, ILO calculations.

Since Impact 5 is, like Impact 4, derived from the sum of deaths, full and partial inability to work, we do not calculate it separately.



## References

- Ainsworth, M.; Filmer, D. 2002. *Poverty, AIDS and children's schooling: A targeting dilemma*, World Bank Policy Research Working Paper No. 2885 (Washington, D.C., World Bank).
- Bachmann, M.O.; Booyesen, F.L.R. 2003. "Health and economic impact of HIV/AIDS on South African households: A cohort study", in *BMC Public Health*, Vol. 3, No. 14.
- Brown, T.; Le, B.; Raftery, A.E.; Salomon, J.A.; Baggaley, R.F.; Stover, J.; Gerland, P. 2010. "Modelling HIV epidemics in the antiretroviral era: the UNAIDS Estimation and Projection package 2009", in *Sexually Transmitted Infections*, 86: ii3-ii10.
- Budlender, D.; Moussié, R. 2013. *Making care visible: Women's unpaid care work in Nepal, Nigeria, Uganda and Kenya*. (Johannesburg, ActionAid).
- Case, A.; Ardington, C. 2006. "The impact of parental death on school outcomes: Longitudinal evidence from South Africa", in *Demography*, Vol. 43, No. 3, pp. 401–420.
- d'Adda, G.; Goldstein, M.; Graff Zivin, J.; Nangami, M.; Thirumurthy, H. 2009. "ARV treatment and time allocation to household tasks: Evidence from Kenya", in *African Development Review*, Vol. 21, No. 1, pp. 180–208.
- Diallo, Y.; Etienne, A.; Mehran, F. 2013. *Global child labour trends 2008 to 2012* (Geneva, International Labour Office).
- Evans, D.K.; Miguel, E. 2007. "Orphans and schooling in Africa: A longitudinal analysis", in *Demography*, Vol. 44, No. 1, pp. 35–57.
- Farahani, M.; Roumis, D.; Mahal, A.; Holmes, M.; Moalosi, G.; Molomo, C.; Marlink, R. 2013. "Effects of AIDS-related disability on workforce participation and earned income in Botswana: A quasi-experimental evaluation", in *Health*, Vol. 5, No. 3, pp. 409–416.
- Floyd, S.; Crampin, A.C.; Glynn, J.R.; Madise, N.; Mwenebabu, M.; Mnkondia, S.; Ngwira, B.; Zaba, B.; Fine, P.E.M. 2007. "The social and economic impact of parental HIV on children in northern Malawi: Retrospective population-based cohort study", in *AIDS Care*, Vol. 19, No. 6, pp. 781–790.
- Folbre, N. 2006. "Measuring care: Gender, empowerment, and the care economy", in *Journal of Human Development*, Vol. 7, No. 2, pp. 183–199.
- Fortson, J.G. 2011. "Mortality risk and human capital investment: The impact of HIV/AIDS in sub-Saharan Africa", in *Review of Economics and Statistics*, Vol. 93, No. 1, pp. 1–15.

- The Global Fund. 2016. *The Global Fund 2016 Annual Financial Report* (Geneva).
- Goldstein, M.; Zivin, J.G.; Thirumurthy, H. 2010. “The household impacts of treating HIV/AIDS in developing countries”, in J.Y. Lin and B. Pleskovic (eds): *Annual World Bank Conference on Development Economics – Global 2009: People, Politics, and Globalization* (Washington, D.C., World Bank), pp. 385–405.
- Habyarimana, J.; Mbakile, B.; Pop-Eleches, C. 2010. “The impact of HIV/AIDS and ARV treatment on worker absenteeism: Implications for African firms”, in *Journal of Human Resources*, Vol. 45, No. 4, pp. 809–839.
- Hilhorst, T.; van Liere, M.J.; Ode, A.V.; de Koning, K. 2006. “Impact of AIDS on rural livelihoods in Benue State, Nigeria”, in *Journal of Social Aspects of HIV/AIDS*, Vol. 3, No. 1, pp. 382–393.
- International Labour Office (ILO). 2015. *HIV and AIDS and labour rights: A handbook for judges and legal professionals* (Geneva).
- International Labour Office (ILO). 2016a. *Key Indicators of the Labour Market 2015* (Geneva).
- International Labour Office (ILO). 2016b. *Global Wage Report 2016/17: Wage Inequality in the Workplace* (Geneva).
- International Labour Office (ILO). 2013. *Estimates and projections of the economically active population*, 6th edition (Geneva).
- International Labour Office (ILO). 2001. *An ILO Code of Practice on HIV/AIDS and the World of Work* (Geneva).
- Larson, B.A.; Fox, M.P.; Rosen, S.; Bii, M.; Sigei, C.; Shaffer, D.; Sawe, F.; Wasunna, M.; Simon, J.L. 2008. “Early effects of antiretroviral therapy on work performance: Preliminary results from a cohort study of Kenyan agricultural workers”, in *AIDS*, Vol. 22, No. 3, pp. 421–425.
- Lewis, J.; Giullari, S. 2005. “The adult worker model family, gender equality and care: The search for new policy principles and the possibilities and problems of a capabilities approach, in *Economy and Society*, Vol. 34, No. 1, pp. 76-104.
- Mahiane, S.G.; Marsh, K.; Grantham, K.; Crichlow, S.; Caceres, K.; Stover, J. 2017. “Improvements in Spectrum’s fit to program data tool, in *AIDS*, Vol.31 (Supplement 1), S23-S30.
- Mehta, A.K.; Gupta, S. 2005. *The impact of HIV/AIDS on women care givers in situations of poverty* (New Delhi, UNIFEM South Asia Regional Office).
- Muirhead, D.; Kumaranayake, L.; Hongoro, C.; Charalambous, S.; Grant, A.; Fielding K.; Churchyard G. 2006. *Health care costs, savings, and productivity benefits resulting from a large employer sponsored ART program in South Africa*, paper presented at the XVI International AIDS Conference, Toronto, 13–18 August.

- Nakagawa, F.; Miners, A.; Smith, C.; Smith, R.; Lodwick, R.; Cambiano, V.; Lundgren, J.; Delpech, V.; Phillips, A. 2015. "Projected lifetime healthcare costs associated with HIV infection", in *PLoS One*. Vol. 10(4): e0125018.
- Nussbaum, M. 2001. *Women and human development: The capabilities approach*. (Cambridge, United Kingdom, Cambridge University Press).
- Ogden, J.; Esim, S.; Caren Grown, C. 2004. *Expanding the care continuum for HIV/AIDS: Bringing carers into focus* (Washington, D.C., Population Council and International Center for Research on Women).
- Picchio, A. 2003. "A macroeconomic approach to an extended standard of living", in A. Picchio (ed.): *Unpaid work and the economy: A gender analysis of the standards of living*. New York, Routledge), pp. 11–28.
- Razavi, S. 2007. "The return to social policy and the persistent neglect of unpaid care", in *Development and Change*, Vol. 38, No. 3, pp. 377–400.
- Rosen, S.; Ketlhapile, M.; Sanne, I.; DeSilva, M.B. 2008. "Differences in normal activities, job performance and symptom prevalence between patients not yet on antiretroviral therapy and patients initiating therapy in South Africa", in *AIDS*, Vol. 22 (Suppl 1), pp. S131–S139.
- Sgombich, X.; Bahamondes, L.; Cid, C. 2006. *Quality of life in work, absenteeism, and HAART in workers living with HIV*, paper presented at the XVI International AIDS Conference, Toronto, 13–18 August.
- Stewart, A. 2007. "Who do we care about? Reflections on gender justice in a global market. *Northern Ireland Legal Quarterly*, Vol. 58(3), pp. 358-74.
- Thirumurthy, H.; Saravanan, R.M.; Srinivas, G.; Jafri, A.; Sreevidya, J.; Sahu, S. 2008. *The impact of antiretroviral therapy on socioeconomic outcomes of HIV-infected patients in Tamil Nadu family care continuum program, India*, paper presented at the XVII International AIDS Conference, Mexico City, 3–8 August.
- Thirumurthy, H.; Jafri, A.; Srinivas, G.; Arumugam, V.; Saravanan, R.M.; Angappan, S.K.; Ponnusamy, M.; Raghavan, S.; Merson, M.; Kallollikar, S. 2011. "Two-year impacts on employment and income among adults receiving antiretroviral therapy in Tamil Nadu, India: A cohort study", in *AIDS*, Vol. 25, No. 2, pp. 239–246.
- Timaus, I.M.; Boler, T. 2007. "Father figures: The progress at school of orphans in South Africa", in *AIDS*, Vol. 21 (Suppl 7), pp. S83–S93.
- Todd, J.; Glynn, J.R.; Marston, M.; Lutalo, T.; Biraro, S.; Mwita, W.; Suriyanon, V.; Rangsins, R.; Nelson, K.E.; Sonnenberg, P.; Fitzgerald, D.; Karita, E.; Zaba, B. 2007. "Time from HIV seroconversion to death: A collaborative analysis of eight studies in six low and middle-income countries before highly active antiretroviral therapy", in *AIDS*, Vol. 21 (Supplement 6): S55–63.
- UNAIDS. 2017. *Ending AIDS: Progress towards the 90-90-90 targets* (Geneva).
- UNAIDS. 2014. *Methodology: Understanding the HIV estimates* (Geneva).

- United Nations Children's Fund (UNICEF). 2013. *Impact of unpaid household services on the measurement of child labour*, MICS Methodological Paper No. 2 (New York).
- United Nations Educational, Scientific and Cultural Organization (UNESCO). 2010. *The implications of HIV and AIDS on women's unpaid labour burden* (Paris).
- United Nations Educational, Scientific and Cultural Organization. 2016. *Global education monitoring report 2016* (Paris).
- Urdang, S. 2006. "The care economy: Gender and the silent AIDS crisis in southern Africa", in *Journal of Southern African Studies*, Vol. 32, No. 1, pp. 165–177.
- World Health Organization. 2017. *HIV drug resistance report 2017* (Geneva).
- World Health Organization. 2014. *Access to antiretroviral drugs in low- and middle-income countries* (Geneva).
- Wyss, K.; Hutton, G.; N'Diekhon, Y. 2004. "Costs attributable to AIDS at household level in Chad", in *AIDS Care*, Vol. 16, No. 7, pp. 808–816.
- Yiannoutsos, C.T.; Johnson, L.F.; Boulle, A.; Musick, B.S.; Gsponer, T.; Balestre, E.; Law, M.; Shepherd, B.E.; Egger, M. 2012. "Estimated mortality of adult HIV-infected patients starting treatment with combination antiretroviral therapy, in *Sexually Transmitted Infections*, Vol. 88 (Supplement 2), i33-43.
- Yun, Y.; Li, X.; Zhang, L.; Zhao, J.; Zhao, G.; Zheng, Y.; Stanton, B. 2013. "Domestic chores workload and depressive symptoms among children affected by HIV/AIDS in China", in *AIDS Care*, Vol. 25, No. 5, pp. 632–639.
- Zivin, J.G.; Thirumurthy, H.; Goldstein, M. 2009. "AIDS treatment and intrahousehold resource allocation: Children's nutrition and schooling in Kenya", in *Journal of Public Economics*, Vol. 93, Nos 7–8, pp. 1008–1015.