

# ADOLESCENCE AND YOUTH – THE HEALTHIEST TIME OF LIFE? YOUNG PEOPLE AND POVERTY-RELATED AND NEGLECTED DISEASES

## WHAT ARE THE HEALTH ISSUES FACED BY YOUNG PEOPLE?



More than half of the world's 1.8 billion young people aged 10–24 years<sup>1</sup> grow up in so-called 'multi-burden countries', with high levels of adverse health outcomes.

Rapid declines in rates of morbidity and mortality in young children (0-5 years) has been achieved, this has not been matched by similar improvements in the health of 10–24 year olds. This is a critical period in a person's development, during which many risk or protective behaviours start to take hold.

Injuries, mental health conditions, common infectious diseases, and sexual and reproductive health problems are all serious health issues for this age group.

## HOW DO POVERTY-RELATED AND NEGLECTED DISEASES (PRNDs)<sup>2</sup> AFFECT YOUNG PEOPLE?

Young people are particularly vulnerable to HIV infection. They are also vulnerable to other PRNDs, but are however rarely considered a specific target group for policies aimed at controlling these diseases.

### PRNDs with the largest burden on young people

Incidence gradually increases during adolescence, mainly due to changes in behaviour.	HIV/AIDS	Tuberculosis	Schistosomiasis
	Soil-transmitted helminthiases		Strongyloidiasis
	Dengue	Sleeping sickness	Bacterial meningitis
	Guinea-worm disease	River-blindness	

### PRNDs with the largest burden on young children, followed by adolescents and youth

Incidence still high during adolescence and youth, mainly declining during live time because of increasing (partial) resistance.	Malaria	Diarrheal diseases	Bacterial pneumonia
	Typhoid and paratyphoid fever		Rheumatic fever
	Leishmaniases	Trachoma	Lymphatic filariasis
	Yaws	Buruli ulcer	Scabies

### PRNDs with the largest burden at a later age

Not an important cause of morbidity in young people, but they should be included in screening, education and sensitisation programmes.	Malaria	Leprosy	Foodborne trematodiasis
	Chagas' disease	Cysticercosis	Echinococcosis
	Mycetoma	Deep mycoses	Leptospirosis
	Venomous snakebites	Hepatitis C	Cryptococcal meningitis
	African viral haemorrhagic fevers		

For more information and all data sources included in this summary, please refer to the full report at:

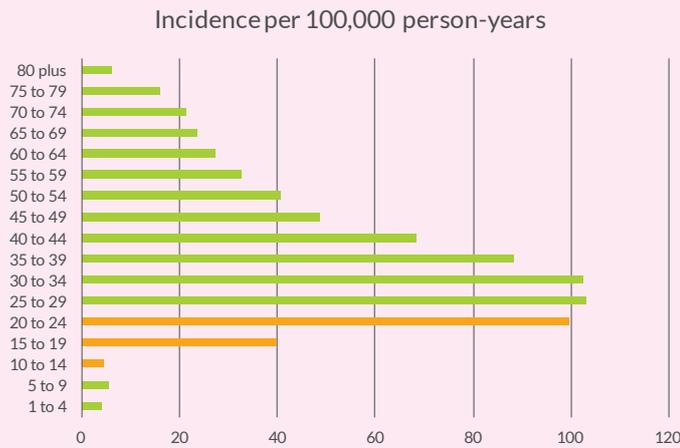
[www.dsw.org/en/publications/young-people-poverty-related-neglected-diseases/](http://www.dsw.org/en/publications/young-people-poverty-related-neglected-diseases/)

<sup>1</sup> While there are no universally accepted definitions of "adolescence" and "youth", the report on which this paper is based follows the United Nations definition of adolescents (persons aged 10-19 years), and youth (15 - 24), and refers to both groups together (10 - 24) as "young people".

<sup>2</sup> Poverty-related and neglected diseases (PRNDs) include major diseases such as HIV & AIDS, tuberculosis and malaria, as well as a range of neglected tropical diseases (NTDs). NTDs mostly comprise parasitic diseases such as hookworm, Chagas disease, or schistosomiasis, but also viruses like Dengue and Chikungunya, and bacterial infections such as leprosy. They impose an unacceptable moral and health burden on individuals and societies. They are often chronic and can result in lifelong disabilities and deformities, causing stigmatisation and social exclusion.

# EXAMPLES OF PRND<sub>s</sub> WITH A LARGE BURDEN ON YOUNG PEOPLE

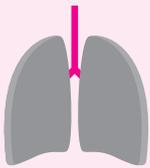
## HIV & AIDS



As young people become sexually active, they become vulnerable to HIV and other sexually transmitted infections. In sub-Saharan Africa adolescent girls and young women represent 25% of new HIV infections. AIDS is the fourth leading cause of death among adolescents in African low- and middle-income countries (LMICs). Globally, AIDS-related mortality is higher in adolescents than in other age groups.

Children living with HIV as a result of maternal-to-child transmission (MTCT) in the era before the prevention of MTCT was widely available, are now moving into adolescence, increasing the number of people living with HIV in this age group.

## Tuberculosis (TB)



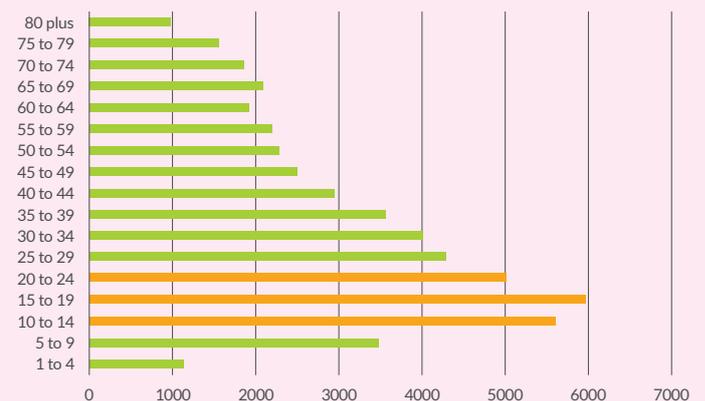
In countries where HIV is prevalent, TB incidence peaks in younger age groups due to the frequent occurrence of co-infection. From school-age onwards, adolescents become more exposed to TB from more contact with people outside their home. The prevalence of latent TB can be high in adolescents and the disease progression is more rapid than in adults. As with HIV, detection and treatment adherence for TB is generally poorer in adolescents than in adults.

## Water- and soil-borne helminthiasis



As children become more active, and spend more time playing and swimming outdoors, they become more susceptible to parasitic worm infections (e.g. schistosomiasis, hookworm, whipworm, etc.). Prevalence peaks in adolescence and then slowly declines as immunity increases. In endemic countries, infection is an important cause of anaemia, in particular in adolescent girls, increasing the risk of maternal death during pregnancy as a result. Worm infections are also linked to school absenteeism and low school performance, as well as poor nutritional status.

**Figure 1:** Prevalence of schistosomiasis per 100,000 persons, by 5 years age categories, in 2015



## Dengue fever

Although young children remain most at risk of dengue infection, several countries have noted a shift towards adolescents and young adults, with the highest incidence of dengue in the 10-14 years age group. An explanation for this is that as the prevention of infection in young children becomes more effective, these same young people develop less immunity against these infections.

## Sleeping sickness



Human African trypanosomiasis (sleeping sickness) mainly affects adolescents and young people, and incidence peaks in the 20 – 24 years age group. The infection can cause loss of memory and ability to concentrate, and can affect the educational performance of school-aged children.

## Pneumococcal and meningococcal meningitis

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Prevalence peaks in young people, as a result of increased social mixing behaviours, including bar attendance, smoking, or more than one kissing partner. In 2015, meningitis ranked third as a cause of death among adolescents in African LMICs.

## Guinea-worm disease

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Occurs in all age groups but it is more common among young adults aged 15-45 years old. It is thought they are more likely to drink contaminated stagnant water while away from home. It is a severely disabling disease and a frequent cause of school drop-out.

## River blindness

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Shows a comparable pattern, peaking in the 15-35 age group.

## EXAMPLES OF PRNDS WITH THE LARGEST BURDEN ON YOUNG CHILDREN, FOLLOWED BY YOUNG PEOPLE

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### Malaria

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Young children have the highest infection rate for malaria, and the disease incidence gradually declines as (partial) immunity develops. Nevertheless, malaria incidence is still substantially higher among young people than older people. It is among the top ten causes of death in adolescents worldwide, and an important cause of anaemia and school absence. Successes in lowering malaria transmission in young children may result in less immunity in young people, increasing as a result incidence in this older age category over time. Knowledge among adolescents about malaria transmission and its prevention is often low. Of particular concern is malaria in young pregnant women because of the serious risks it presents during pregnancy.

### Diarrheal diseases, including salmonella infections, and bacterial pneumonia

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Diarrheal diseases and other infections acquired through faecal-oral contact, such as typhoid and paratyphoid fever, have the highest incidence in young children, but remain common in adolescents. A similar pattern is seen for bacterial pneumonia. Together with meningitis, diarrhoea and respiratory infections are the top three causes of adolescent death in African LMICs.

### Rheumatic fever

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Infection by the causal bacterial streptococcus mostly occurs during childhood, but the health complications start occurring during adolescence and young age. Rheumatic heart disease is the biggest heart-related cause of morbidity and mortality in youth worldwide.

### Leishmaniases

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While infection rates for this parasite peak during childhood, they remain relatively high during adolescence and youth. These age groups have the highest occurrence of the clinical disease. Most of the deaths caused by leishmaniases occur at age 5-29 years. Disfiguring scars caused by the parasitic infection can lead to social and psychological problems.

### Trachoma

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Infection of the eye by the chlamydia bacteria occurs mostly during childhood. However, clinical signs of trachoma, which is the world's biggest infectious cause of blindness, such as scarring, first manifest themselves in teenagers. Even the more advanced stages can already occur in individuals in their 20s or younger.

### Elephantitis

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Lymphatic filariasis, commonly known as elephantiasis, is mostly acquired during childhood, but primary lymphedema (localised fluid retention and tissue swelling) often develops in young people.



## WHY WE NEED TO TARGET YOUNG PEOPLE IN THE FIGHT AGAINST PRND<sub>s</sub>

- Young people are **rarely specified as a target population** for the control of these PRND<sub>s</sub>, with the exception of HIV & AIDS.
- Mosquito-borne diseases are showing a **shift in incidence peak** from young children to older children and adolescents because of the success of reducing transmission through bed nets.
- 10 - 24 is a **critical age to positively influence their knowledge, attitudes and behaviours** in regard to prevention, care seeking and treatment adherence later in life.



## HOW WE CAN TARGET YOUNG PEOPLE IN THE FIGHT AGAINST PRND<sub>s</sub>

- **School health programmes should address a complete package of diseases**, including all PRND<sub>s</sub> that are endemic in the area. Critical facts about the epidemiology, transmission, prevention and control of these diseases should be integrated into the school curricula, and skills-building activities organised for young people.
- School programmes need **to be complemented by out-of-school youth-targeted interventions**. **Where adolescent-friendly HIV or sexual and reproductive health programmes and services** exist, countries should assess to what extent it is feasible, effective, and cost-effective to integrate other PRND<sub>s</sub> in the scope of the offered services.
- Where prevalence of helminthic infections continues to be high in adolescents, **periodic anthelmintic drug treatment** could be expanded to include the age range of adolescents up to 18 years, in particular adolescent girls.
- **Vaccination of adolescents** is relevant for meningococcal infections and rabies, and, once an effective vaccine has been developed, for TB.



## FILLING THE RESEARCH GAPS ON YOUNG PEOPLE AND PRND<sub>s</sub>

**Many PRND product- and research gaps are valid for all age groups:** there is a significant need for R&D on new and improved interventions to address PRND<sub>s</sub> in low-resource settings. This includes the development of effective, accessible, affordable, and acceptable diagnostics, vaccines, and treatment options.

**The list of potential research topics specifically addressing young people is nevertheless extensive:**

- **effectiveness and cost-effectiveness** of different screening strategies in adolescents and youth, and barriers to treatment and determinants of poor treatment adherence in young people;
- **behaviour change strategies**, approaches to enhance enrolment and retention in care, and treatment adherence in young people;
- **implementation research on integration of different disease control activities** targeted at young people, including integrated adolescent health policies and programmes, adolescent-friendly health services, integrated in- and out-of-school health programmes;
- **implementation research on the effect of skills-based health education**, school-based and out-of-school, adult-led and peer-to-peer;
- **changes and trends in epidemiological patterns**, in particular shifts in age-specific incidence rates as a result of successes in lowering transmission in young children.