



**Prepared for integrating of Adolescent Health and Development Domains into pre-service nursing curriculum at The Hong Kong Polytechnic University, World Health Organization Collaborative Centre for Community Health Services. Supported by WHO, Western Pacific Regional Office**

## **Module 2**

### **Adolescent Health Concerns: A Public Health Approach in Planning For Adolescent Health & Development**

#### **I. Introduction**

Adolescents are in the transition from childhood to adulthood. In promoting healthy adolescence and adulthood, their health and development should be evidence based in order to have the potential for the greatest positive impact. The objectives of this module are to examine adolescent demography, mortality and morbidity in order to identify the health needs of adolescents and young adults. The module includes access to and analysing available epidemiological data at national and local levels regarding adolescent mortality, morbidity, self-reported health status and needs, and access to health care. As a consequence, specific interventions and policy to promote adolescent health and development can be addressed.

#### **II. Learning Objectives**

Upon completion of this module, learners will be able to:

1. Identify available and vital epidemiological data at national and local levels regarding adolescent morbidity and mortality
2. Demonstrate proficiency in analysing crucial epidemiological data, choosing priorities for interventions, and disseminating information on adolescent health issues
3. Identify key people/institutions and target groups who should receive information about adolescent health, and the best method for providing the appropriate information
4. Describe the public health implications of the special characteristics of adolescence

#### Sources:

1. World Health Organization. (2009). World Health Organization: Adolescent Job Aid. World Health Organization.
2. World Health Organization. Orientation Program on Adolescent Health for Health-care Providers. Facilitator Guide - New Modules. World Health Organization.
3. World Health Organization. Orientation Program on Adolescent Health for Health-care Providers. Handout - New Modules. World Health Organization.
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### **III. Content**

- Identify available and vital epidemiological data at national and local levels regarding adolescent morbidity and mortality
- Demonstrate proficiency in analysing crucial epidemiological data, choosing priorities for interventions, and disseminating information on adolescent health issues
- Identify key people/institutions and target groups who should receive information about adolescent health, and the best method for providing the appropriate information
- Describe the public health implications of the special characteristics of adolescence

**Objective 1: Identify available and vital epidemiological data at national and local levels regarding adolescent morbidity and mortality**

**Activities**

Activity 2.1: As a health care professional, you are asked to analyse:

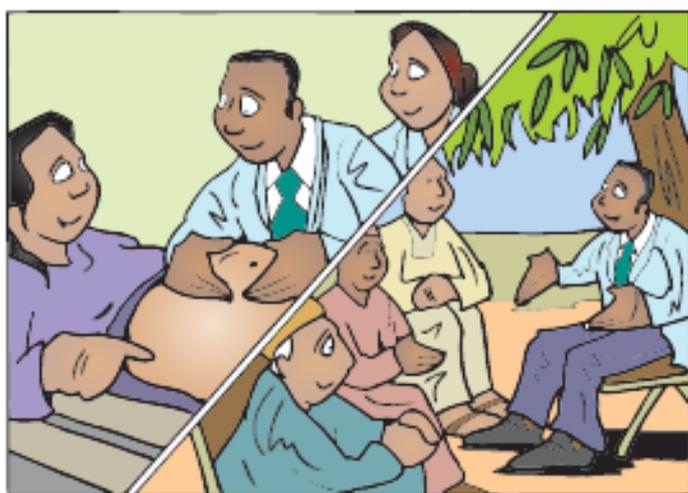
- ◆ National and local health data on adolescent health
- ◆ National and local surveys
- ◆ Data on hospitalizations
- ◆ Data on ambulatory care
- ◆ Practice and hospital?
- ◆ Data on health expenditure
  - a. What is the adolescent population in your region?
  - b. What is the adolescent population in the Western Pacific Region?
  - c. What are the major causes of mortality and morbidity among adolescents in your country?

Adopted from the WHO. (2009) WHO Adolescent Job Aid. WHO (pp. 2-3)

**1. The special contribution that you could make to the health and development of your adolescent clients/patients**

*What you should be aware of:*

1. Adolescence is a phase in life during which major physical, psychological and social changes occur. As they encounter these changes, adolescents have many questions and concerns about what is happening to their bodies. In many places, adolescents are unable to share their questions and concerns, and to seek answers from competent and caring adults.



2. While adolescence is generally considered as a healthy time of life, it is also a period when many behaviours that negatively affect health both during adolescence and later in life, start. Furthermore, many adolescents die every year – mostly from unintentional injuries (e.g. car crashes), intentional injuries (suicide and interpersonal violence) and pregnancy-related causes.

3. Health workers like you have important contributions to make in helping those adolescents who are well to stay well, and those adolescents who develop health problems get back to good health. You can do this through:

- providing them with information, advice, counselling and clinical services aimed at helping them maintain safe behaviours and modify unsafe ones (i.e. those that put them at risk of negative health outcomes);
- diagnosing/detecting and managing health problems and behaviours that put them at risk of negative health outcomes; and referring them to other health and social service providers, when necessary.

Health workers like you have another important role to play – that of change agents in your communities. You could help community leaders and members understand the needs of adolescents, and the importance of working together to respond these needs.

### **Epidemiological data**

Epidemiology can be described as the “basic science” of prevention. By understanding the basic epidemiologic concepts and the possible interpretation of the findings of epidemiologic studies, we are able to identify populations at increased risk, ascertaining the cause of their increased risk, and analysing the costs and benefits of eliminating or minimising exposure to the causal factors.

Although epidemiologic studies generally address the relationship between an environmental exposure and the risk of developing a disease, rigorous assessment of each variable is critical for obtaining comprehensive and reliable findings.

Ideally, it seems most appealing to protect the entire population from any amount of risk. However, this is unrealistic and difficult to accomplish. Therefore, health care policy makers have to balance what can be done and what should be done. The level of priority for the elimination of all risk and the decision regarding what percentage of risk should be eliminated are not only scientific decisions including political, economical and ethical contexts, but also depend on societal values and other considerations (Gordis, 2000). [More](#)

### **Vital epidemiological data include:**

- demographic data
- mortality data
- morbidity data
- access to, and use of, health facilities
- national / regional surveys regarding health status, resources, problems and needs, including self-reported data

## **Adolescent morbidity and mortality**

### **Definition of morbidity**

Morbidity is the prevalence of a specific illness in the population at a particular time. The statistics of morbidity are generally presented as rates per 1000 population. Unlike mortality, morbidity is difficult to define and may denote acute illness, chronic disease, or disability. Data sources also influence statistics. Common sources include reasons for visits to physicians, diagnoses for hospital admission, or household interviews such as the National Health Interview Survey (NHIS), Child Health Supplement. Unlike death rates, which are updated annually, morbidity statistics are revised less frequently and do not necessarily represent the general population. (Hockenberry et al, 2007)\

### **Definition of mortality**

Mortality is the incidence or number of individuals who have died over a specific period. They are usually presented as rates per 100,000. Mortality rates are calculated from a sample of death certificates. (Fry & Yuen, 1994) [More](#)

### **Why do we need to understand and study the epidemiological data of adolescence?**

Some useful concepts are essential to the principles and methods of epidemiology. Understanding these concepts enables the health care professional to interpret the epidemiological studies and to apply this information in his/her practice. Three crucial concepts are discussed, as follows:

1. Natural history of disease, including the agent, environment and host, and disease process
2. Level of prevention, including primary, secondary and tertiary prevention
3. Causality, including statistical and causal relationships

### **Epidemiological data in the field of adolescent health:**

- a. Provide data on the global magnitude of selected priority health problems affecting adolescents and young adults. [More](#)
- b. Analyse important data for current and future investment in adolescent health and development. [More](#)
- c. Epidemiological data on adolescent growth and development is important to understand because:
  - it can be used to monitor the health status of the population, and [More](#)
  - it can help us to identify risk groups. After identifying these risk groups, we can provide appropriate interventions. [More](#)

### **Where to search for data?**

- Population statistics for denominators of rates
- Frequency of health events (morbidity and mortality data)
- Exposure to hypothesised causal factors or events
- Linkage data that permit researchers to track individual study subjects over time

### **About Epidemiology**

Epidemiology is the study of human experience under conditions as well controlled as the circumstances permit; it thus represents the decision to examine in an orderly and carefully planned manner the experience of humans with respect to one or several potential risk factors through selected observations (Gordis, 1988). Through epidemiological data, health care professionals can find out the distribution of various states of health in the population. In addition, we can link the environmental conditions, lifestyles or other factors that influence the presence or absence of disease among adolescents.

An epidemiologist studies the factors that influence the spread of disease and then attempts to prevent the illness they cause. After the identification of agents, plans or interventions can be taken to prevent or control positive occurrence of the diseases for teenagers.

When we need to assess the need for specific community health services, epidemiological investigations may provide measures of disease frequency, as for example, rates of occurrence of Sexually Transmitted Infections (STI) in adolescents.

During the procedure of describing a disease pattern, epidemiologists may identify new clinical syndromes, refine disease classifications, or identify factors that are associated with a high risk of developing a particular condition. This useful information can help doctors make different diagnoses and decide which treatment is most effective to apply. Nurses can also use this information during physical assessments or in particular groups for specific health education programmes.

Census data routinely collected by the government or medical record data maintained by hospitals are examples of existing sources used for investigations. Epidemiologists require four types of data. These are population statistics for denominating rates; frequency of health events (incidence rate, prevalence measures, morbidity and mortality data); exposure to hypothesised causal factors or events; and the link data that permit researchers to track individual study subjects over time (Valanis, 1999).

### **Adolescent Morbidity And Mortality**

- For industrialised and developing countries alike, patterns of adolescent mortality and morbidity are increasingly similar;
- The major cause of declining mortality is the reduction of juvenile vehicular deaths;
- The primary causes of mortality remain violence-related: unintentional injuries, homicide and war, suicide;
- Males are between two and four times more likely to die in adolescence than females;
- Mortality tends to decline between ages 1 and 14; however, the trend reverses at age 15, suggesting behavioural etiologist worldwide to juvenile mortality.

### **Epidemiological data**

In many developing countries, issues and concerns surrounding adolescent health problems have been on the increase (WHO, 1995). Adolescent health issues including earlier sexual maturity, the HIV/AIDS pandemic, increasing drug and alcohol availability, and growing – absolute and relative – poverty and conflict (including wars and civil strife) are leading to increasing trends of ill-health and poor development among adolescents. The resources available for curative health are limited and non-acute conditions do not receive a high priority.

### **Epidemiological data**

In Western countries, although the general health of adolescents is generally good, significant problems have been identified in areas such as mental health and eating disorders. There are also groups at increased risk of ill health, such as adolescents who are homeless or in care, and those who have drug-use problems (Howard, 2000; Tonkin, 2000). Some adolescents are exploited, sexually and physically abused, and some sell sex because of financial insecurity. Some live in disrupted families, affected by AIDS, civil disruption or an emergency situation, and are deprived of basic necessities or emotional support. The terms Children in Difficult Circumstances and Especially Vulnerable Young People have been coined by UNICEF and UNAIDS respectively to draw attention to the special needs and problems of these children / adolescents. In most parts of the world, young men run a greater risk than young women of dying from accidents and violence, and smoking, which often starts in adolescence, contributes to the higher numbers of male deaths from coronary heart diseases (WHO, 2000a). The susceptibility of young women to problems resulting from too early, unprotected and unwanted sexual activity is also well recognised (WHO, 1998a).

### **Epidemiological data**

A major role of epidemiology is to act as a basis for the development of public policies that affect human health, including the prevention and control of diseases. The findings from epidemiologic studies are used for disease prevention and health promotion in both clinical practice and community health. Historically, epidemiologic investigations were initiated to solve health problems relating to human diseases and public health. In this section, issues and problems relating to epidemiology in its application to the formulation and evaluation of public policies will be discussed.

### **Epidemiological data**

Including analysis of epidemiological data in an integrated regime of environmental impact assessment with a comprehensive and interdisciplinary approach at the early stage of planning and design can assure positive outcomes and prevent or reduce environmental and social costs. Central to the process, and something which has often been overlooked, is a need assessment of the target group in the community.

The following part will explain adolescent health needs assessment in the community. It will look at why and how we conduct community needs assessment on adolescents, and in what way it fits in the overall framework for environmental impact assessment.

Community needs assessment involves a process of assessing the needs, opportunities, readiness, capacity, and resources necessary for initiating community change programmes for adolescents. In order to understand what it is, we need first to clarify the terms “community” and “needs” (Chu, 1994).

- **Community:** There are many different definitions of “community”, varying according to different fields of investigation. However, for our purposes, it can be simply defined as a network of people linked by common characteristics that distinguish them from others. Community is thus a multi-dimensional concept with different shades of meaning: it can be viewed as a place/locality, a network of interest, or a social system. (Chu, 1994)
- **Needs:** Decision-making with regard to technological and environmental development is often driven by needs determined by experts outside the community and by precedents identified by a top-down approach without community consultations. However, experts often see the world based on the limited perspective of their own area of expertise and may not be able to understand a full picture of the community to design the most appropriate programme for it. (Chu, 1994)

**Objective 2: Demonstrate proficiency in analysing crucial epidemiological data, choosing priorities for interventions, and disseminating information on adolescent health issues.**

### Activities

Activity 2.2: How do you simultaneously take into account the results of epidemiological data and the needs and problems as expressed by the adolescent themselves?

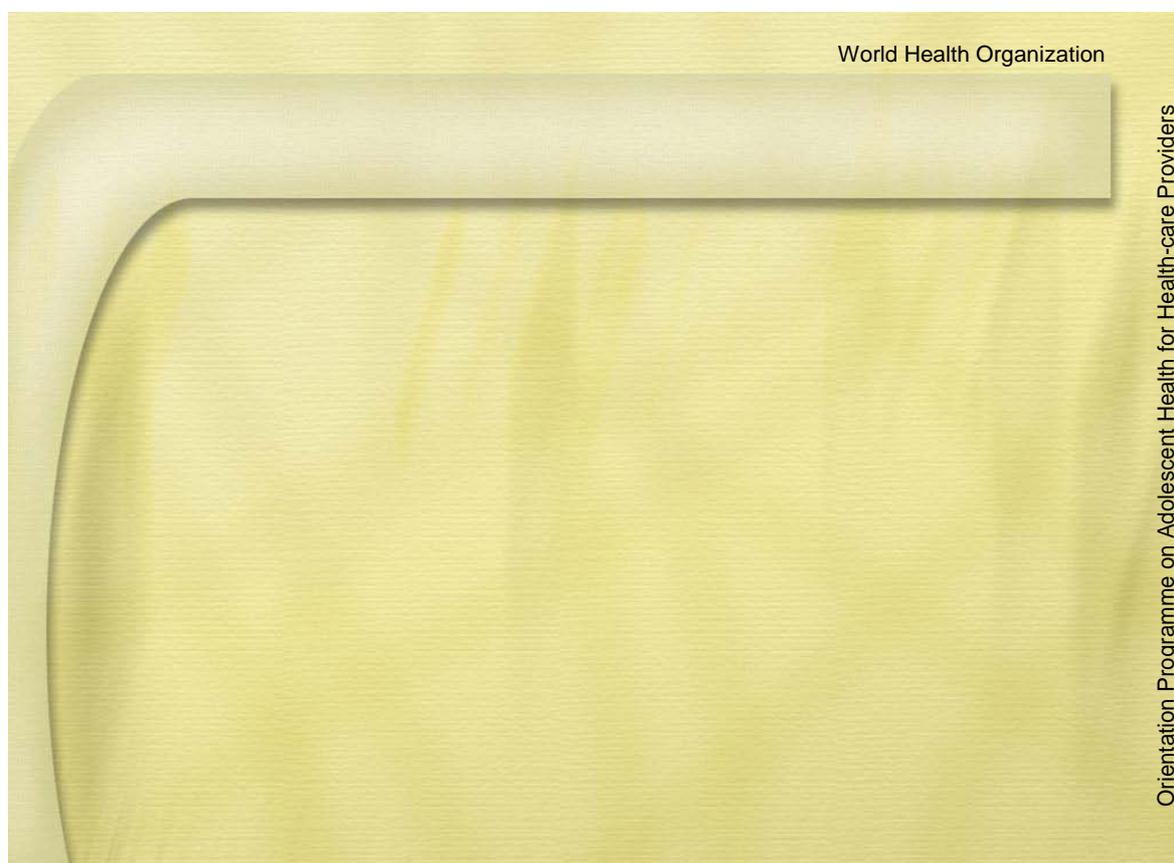
Discuss the validity and reliability of the data.

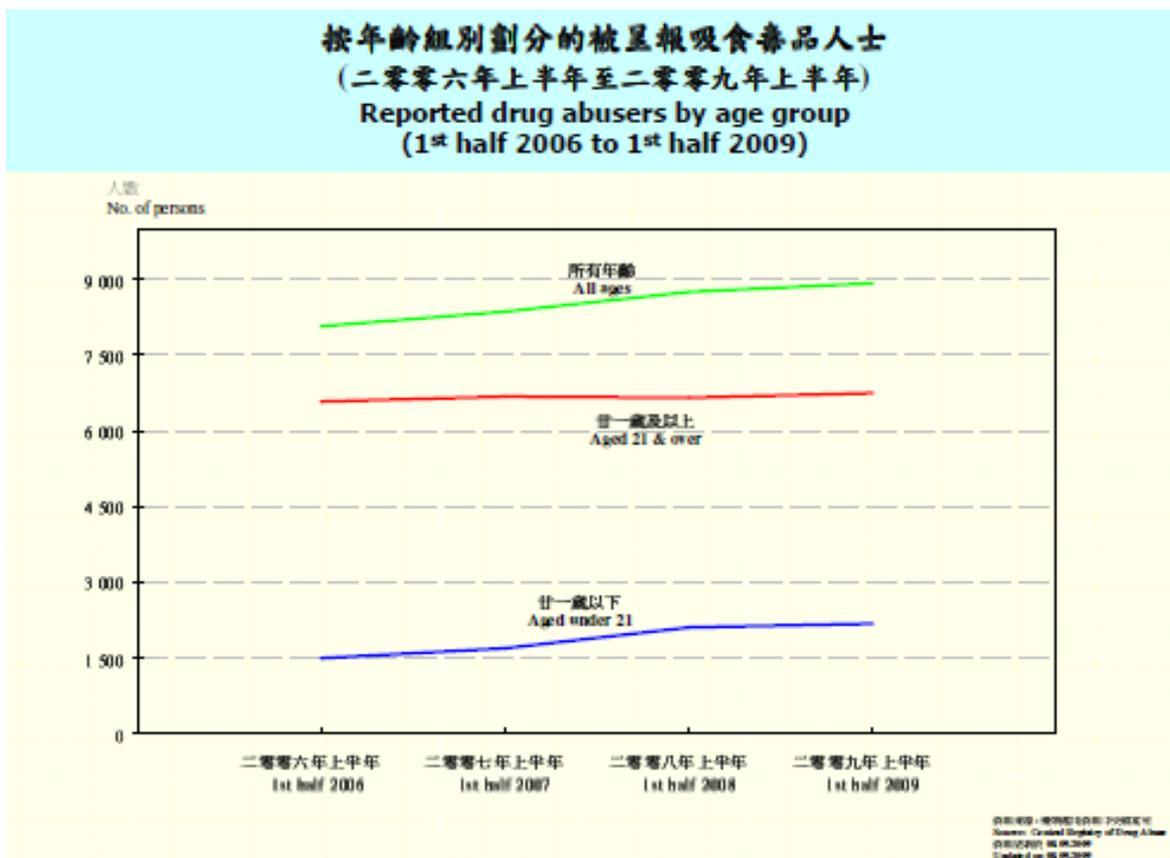
Compare adolescents' data with data available from other segments of the population and other geographical regions, and examine time trends.

### Main issues in adolescent health and development

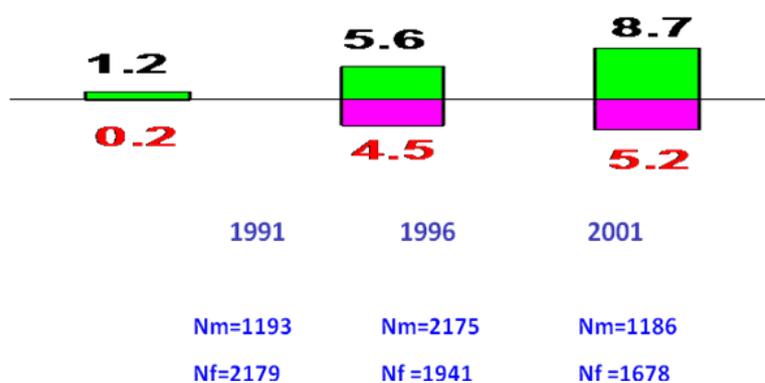
According to a survey conducted by the WHO (2002) in 16 countries in the Western Pacific region, entitled an Overview of Adolescent Health and Development (ADH), the issues of greatest concern in adolescent health and development were:

- Reproductive health (HIV/AIDS/STIs),
- Nutrition problems (obesity),
- Traffic accidents,
- Suicide and self-injury, and
- Substance abuse including alcohol, tobacco and other drugs





### Time trend on Intercourse (18-27 students) in Hong Kong



### **How to select domains and issues?**

Successful planning of adolescent health care services is dependent on two main factors: the availability of accurate and adequate information, and the implementation of strategies for evaluating the effectiveness and outcomes of these services.

- Taking into account all the available epidemiological data (including self-reported data), identify key issues in the field of adolescent health.
- Identify gaps and areas for improvement in the health care of adolescents, where effective action can be taken.
- Identify specific groups of adolescents who have ‘special needs’ or require special intervention (i.e. lower socioeconomic status, immigrants)

### **Some crucial concepts in epidemiology for public health planning**

Every community has patterns of functioning or community dynamics, which either contribute to or detract from its state of health. Health care professionals must have knowledge of these patterns in order to anticipate community responses to health action and to influence the direction of health programming. Without this knowledge, it is difficult to effect change and promote healthy adolescence and adulthood. It is essential for health care professionals to have an understanding of community dynamics, because health action occurs in the community.

**Objective 3: Identify key people/institutions and target groups who should receive information about adolescent health, and the best method for providing the appropriate information**

**Activities**

Activity 2.3: How do you set priorities for action and determine who should take the action (politicians, economists, teachers, social workers, doctors, nurses...)?

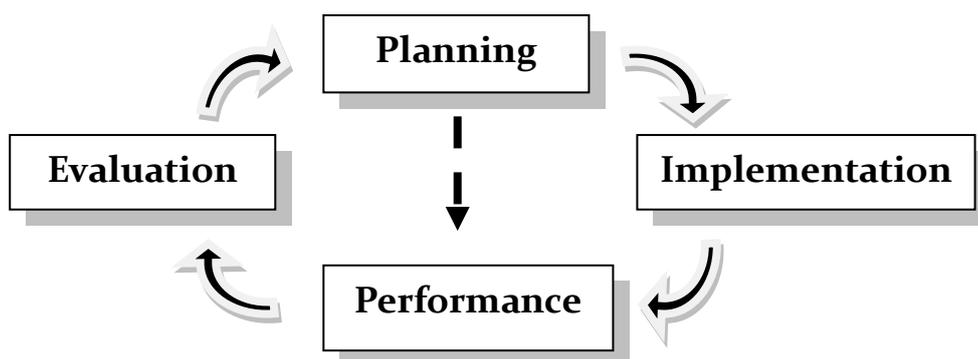
What kind of effective interventions are available? And what effective interventions have already been implemented in your region?

**Dissemination of epidemiological data for health care services planning**

Epidemiological data provide accurate and adequate information for planning health care services. Health care professionals should develop appropriate methods for the dissemination of public health data, such as media interviews, leaflets, conferences, etc. The stakeholders are those such as politicians, decision makers, public health officers, physicians, nurses, psychologists, social workers, educators, lawyers, teachers, parents and young people themselves.

**Health planning and evaluation**

This focuses on epidemiology considerations for the planning and evaluation of health activities, services, or programmes. In the planning and evaluation of health activities, excess or unusual morbidity and mortality may be viewed as problems. A clinic nurse may be concerned about the problem of non-compliance with prescribed therapy among hypertensive patients. A staff nurse may be concerned about the problem of an increase in nosocomial infections in the unit. A hospital administrator may be concerned about an unusual suicide rate among hospital staff. A public health nurse may be faced with the problems of unusually high rates of alcohol-related fatalities or of an increase in childhood infectious diseases.



• Figure 1. Relationship Between Planning and Evaluation

The above figure provides a discussion of the cyclic nature of planning and evaluation, and a brief overview of the planning and evaluation process, followed by a more thorough discussion of planning and evaluation that should incorporate epidemiological principles and methods.

As one planning/evaluation cycle is completed, a second planning effort should occur. Planning at this stage considers any problems from the previous cycle that were identified during the evaluation. New information that becomes available during evaluation may lead to major or minor programme changes. In some instances, it may be necessary to do additional research to verify or determine the causes of any new problems that become apparent as a result of evaluation.

**Objective 4: Describe the public health implications of the special characteristics of adolescence**

**Activities**

Activity 2.4: Write down one or two characteristics of adolescence that distinguishes it from childhood or adulthood, and name some health problems or health behaviours of adolescents.

Ask each group to identify priority health and development problems affecting adolescents and come up with possible public health implications for the chosen special characteristics.

1. What are the priority health problems of adolescents?
2. Whose priority are they?
3. Priority for what action?

**Meaning of implications for public health planning for adolescents**

- Consideration of mortality rates alone has resulted in young people being seen as a healthy age group, and this has led to their being accorded a low priority for health-related interventions. Morbidity statistics reported by health services also tend to show low rates among young people. This masks the degree to which the health and health-related behaviour of young people are important to public health planning.
- The diseases and health-related behaviours which are important problems in young people in developing countries can be classified into five broad categories: those which are particular to young people, those which affect young people disproportionately, those which manifest themselves primarily in young people but originate in childhood, those whose major health implications are on the young person's future health, and those which affect young people less than children, but more than adults. [More](#)

## Adolescent Morbidity And Mortality

<p>Diseases particular to young people</p>	<p><b>Diseases:</b></p> <ul style="list-style-type: none"> <li>• Disorders of secondary sexual development</li> <li>• Difficulties with psycho-social development</li> <li>• Sub-optimal adolescent growth spurt</li> </ul>
<p>Diseases and unhealthy behaviours which affect young people disproportionately</p>	<p><b>Diseases:</b></p> <ul style="list-style-type: none"> <li>• Maternal mortality and morbidity</li> <li>• STIs (including HIV)</li> <li>• Tuberculosis</li> <li>• Schistosomiasis</li> <li>• Intestinal helminths</li> <li>• Mental disorders</li> </ul> <p><b>Behaviours:</b></p> <ul style="list-style-type: none"> <li>• Alcohol use</li> <li>• Other substance abuse</li> <li>• Injuries</li> </ul>
<p>Diseases which manifest themselves primarily in young people but originate in childhood</p>	<p><b>Diseases:</b></p> <ul style="list-style-type: none"> <li>• Chagas disease</li> <li>• Rheumatic heart disease</li> <li>• Polio</li> </ul>
<p>Diseases and unhealthy behaviours of young people whose major implications are on the young person's future health</p>	<p><b>Diseases:</b></p> <ul style="list-style-type: none"> <li>• STIs (including HIV)</li> <li>• Leprosy</li> <li>• Dental disease</li> </ul> <p><b>Behaviours:</b></p> <ul style="list-style-type: none"> <li>• Tobacco use</li> <li>• Poor diet</li> <li>• Lack of exercise</li> <li>• Unsafe sexual practices</li> </ul>
<p>Diseases which affect young people less than children, but more than adults</p>	<p><b>Diseases:</b></p> <ul style="list-style-type: none"> <li>• Malnutrition</li> <li>• Malaria</li> <li>• Gastroenteritis</li> <li>• Acute respiratory infections</li> </ul>

Refer to World Health Organization (WHO) Orientation Program (OP) on Adolescent Health for Health-care Providers, Facilitator Guide – New Modules Adolescent –Friendly Health Services. p. D-13~16.

#### **IV. Summary**

Planning health care services demands great emphasis on the development of good information systems and on appropriate health needs and health gain measures. Therefore, epidemiological data play the important role of providing evidence to guide the strategic planning of health services, including the role of nursing and other health care professionals.

## V. References

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