



Ministry of Health

# Epidemiological Bulletin SEYCHELLES



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## Editorial

The two main topics we have selected in this sixth issue of the Bulletin highlight the collaboration between health workers and professionals in other sectors.

Promoting the safety and health of workers has been a shared responsibility of Health and Social Affairs and Employment for the past two decades and more. Close collaboration is ensured at all levels through a number of mechanisms. Medical examination of workers (Health's responsibility) and monitoring of workplaces and notification of accidents (Employment's responsibility) are required by law. In this issue we provide selected statistics from the two services. There are many gaps in the collection and reporting of the statistics. Our concern is that, after so many years of collaboration, we do not have adequate information on which to evaluate our programmes and their impact on the health of workers. We urge our colleagues in both Ministries, and in the other sectors involved, to address these gaps.

Road safety has become more prominent as a public health issue in more recent years. The accident in early July involving three fatalities has heightened public awareness and concern. In working towards World Health Day 2004 with the focus on the prevention of road traffic accidents, we noted that Land Transport has kept good records over many years and which complement those maintained by Health. The exchange is being pursued actively and we hope that periodic reviews can be published jointly. Clearly, the rate of accidents in Seychelles is high. By working together to provide a detailed picture of road safety and accidents and the consequences of those accidents, we will contribute to national awareness and prevention programmes.

It is a year since we launched the Epidemiological Bulletin. We thank all of you who have contributed and we once again invite readers to send us feedback on how useful you find the Bulletin and suggestions for its improvement. The Bulletin is now widely distributed nationally and, through the WHO and contacts in other organisations, in the region. Current and past issues are also available on the Ministry of Health website.

**Condrad Shamlaye**  
Special Advisor to The Minister of Health

## Occupational Health

### The Global Situation

According to WHO, the officially registered working population constitutes 60-70% of the adult male and 30-60% of the adult female population of the world. <sup>1</sup> Most of the world's population (58%) spend one third of their adult life at work, contributing to the development and well-being of themselves, their families and society.

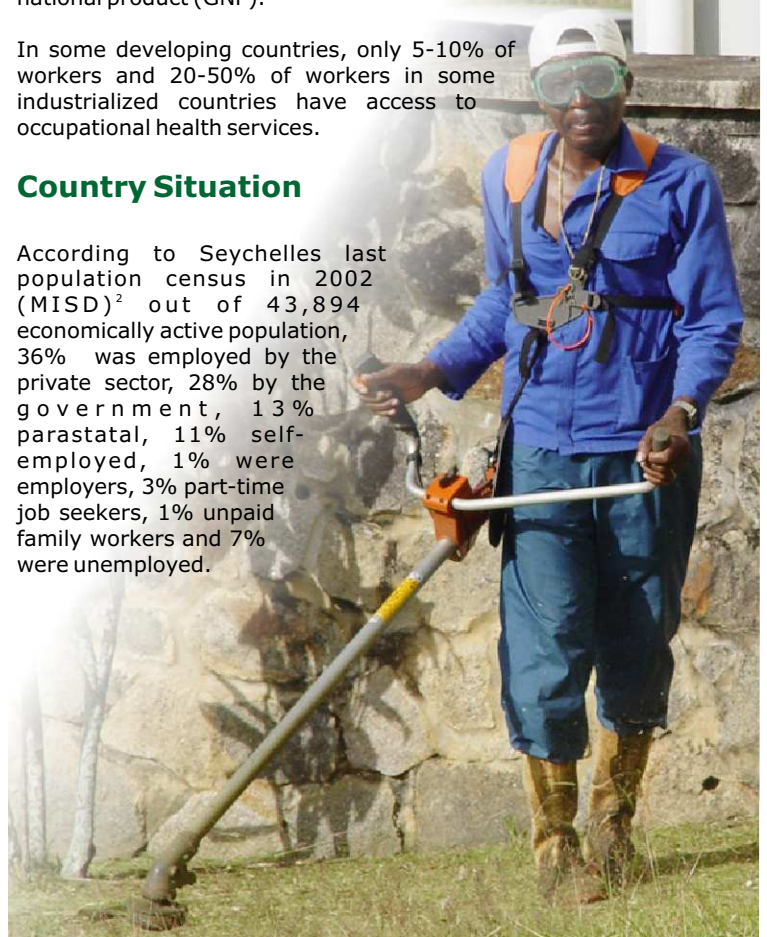
The International Labour Organization (ILO) estimates that about 120 million occupational accidents with 200,000 fatalities occur annually and some 68-157 million cases of occupational diseases may be caused by various exposures at work. This means the average risk of accidents is 42 per 1,000 workers with the risk of fatality at 8.3 per 100,000 workers. However, a major part of occupational diseases go undiagnosed and unreported.

In addition to unnecessary human suffering, the costs involved in these health hazards have been estimated to have high negative impact on some countries' gross national product (GNP).

In some developing countries, only 5-10% of workers and 20-50% of workers in some industrialized countries have access to occupational health services.

### Country Situation

According to Seychelles last population census in 2002 (MISD)<sup>2</sup> out of 43,894 economically active population, 36% was employed by the private sector, 28% by the government, 13% parastatal, 11% self-employed, 1% were employers, 3% part-time job seekers, 1% unpaid family workers and 7% were unemployed.



Worker wearing protective goggles, overalls and boots

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# ROAD TRAFFIC INJURIES



## A neglected global public health concern

Worldwide, the number of people killed in road traffic accidents (RTA) annually is estimated at almost 1.2 million. This represents an average of 3,242 persons dying daily around the world from road traffic injuries, while the number injured or disabled could be as high as 50 million<sup>1</sup>. According to WHO data<sup>2</sup>, deaths from road traffic injuries accounted for 22.8% of all global injury mortality and ranked as the 11<sup>th</sup> leading cause of death in 2002. WHO estimated that, by 2020, road traffic accidents would be the third most common cause of death, more common than malaria, tuberculosis or HIV/AIDS.

## Magnitude of the problem in Seychelles

From 1998 up to December 2003, out of 6,865 RTA reported 56 deaths occurred. At the end of 2003 the rate of RTA was estimated at 13.5 per 1,000 inhabitants and 117 per 1,000 motor vehicles.

Road traffic deaths accounted in 2003 for 1.8% of all deaths in the country compared to 0.8% in 1989. Figure 1 shows that there is an increase in the trend of the road traffic fatality rate in Seychelles in the last 6 years. In 2003, it was estimated at 15 per 100,000 population compared to 8.7 in 1998. Global and regional road fatality rates show that there has been a pronounced rise in the rates in many low and middle-income countries, while in high-income countries there has been a decrease.

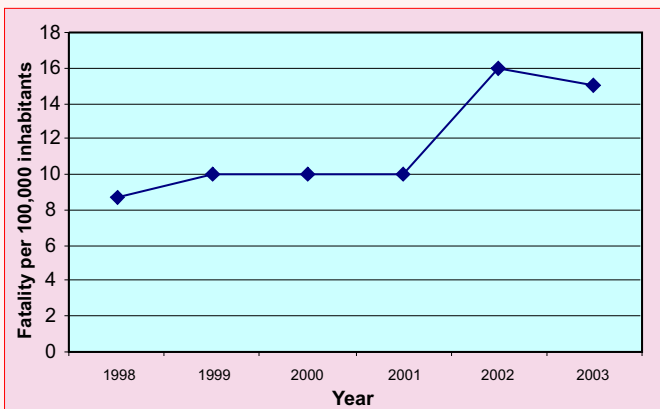


Fig. 1: Road fatality trend in Seychelles (1998-2003).

In China, in 2003 the rate was 10.8 per 10,000 vehicles. In 2002, the road traffic fatality rate in Australia was 9.5 per 100,000 inhabitants, while in the European region it was 11 and 15.2 in the United States<sup>3</sup>. The reduction in road traffic fatalities in high-income countries is attributed largely to the implementation of a wide range of road safety measures, including seat-belt use, vehicle crash-protection, traffic-calming interventions and traffic law enforcement<sup>1</sup>.

The number of vehicles according to the Seychelles Licensing Authority increased from 5,200 in 1988 to 9,250 in 2003. Figure 2 shows the trend of the fatality rates per 10,000 vehicles from 1998 to 2003. There is an increase trend of the fatality rate per 10,000 vehicles in the last six years. The rate increased from 7 per 10,000 vehicles in 1998 to 12 in 2003. Although fatalities per vehicle has been criticized as an indicator for road safety it would be important to monitor the trend to ensure appropriate measures to prevent more

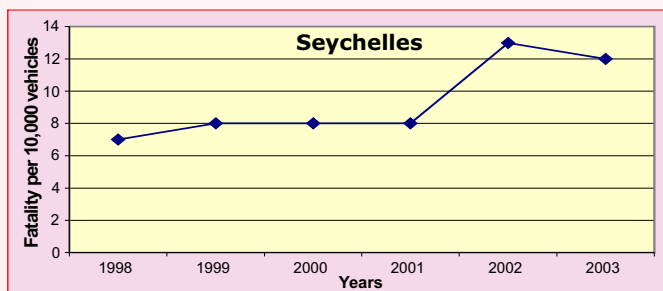


Fig. 2: Fatality rate per 10,000 vehicles (1998-2003).

Data collected from the Victoria Hospital shows that from January to May 2004, 121 persons were managed at the casualty department due to RTA. Figure 3 shows that the number of accidents increase from Thursdays to Saturdays. This information can guide transport authorities in the formulation of appropriate interventions to reduce and prevent road traffic associated deaths, injuries and disabilities.

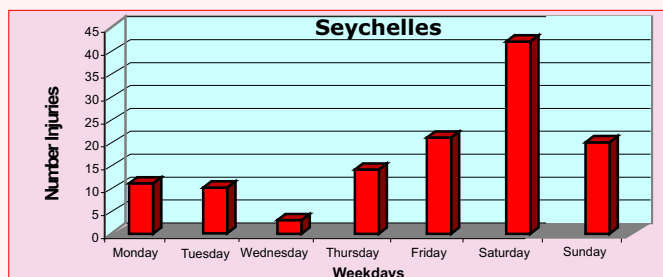


Fig. 3: Patients managed at the casualty at Victoria Hospital as a result of RTA.

Figure 4 presents the age and sex distribution of deaths due to RTA in the last 10 years (N=94). Approximately 78% of all deaths occurred among males and in 74% of the cases among people aged 15 to 44 years old. Recent studies from Mozambique, Ghana, Kenya and Zambia indicated greater rates of males as opposed to females involvement in RTA<sup>3</sup>.

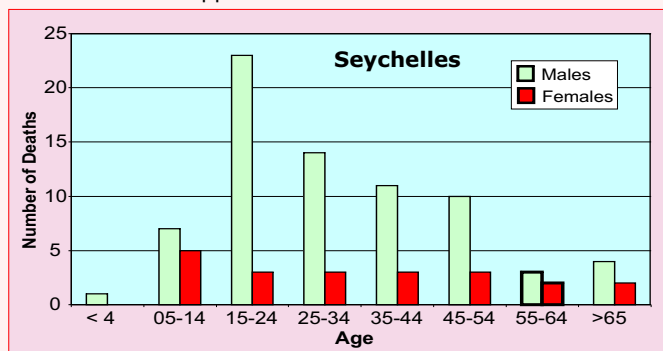


Fig. 4: Deaths due to RTA by age groups and sex (1998-2003).

According to WHO data<sup>1</sup>, adults aged between 15 to 44 years account for more than 50% of all road traffic deaths. In high-income countries, adults aged between 15 to 29 years have the highest rates of injury, while in low and middle-income countries rates are highest among those > 60 years old.

In Seychelles, based on total deaths from 1994 to December 2003, almost 14% of deaths were among adolescents and children below 14 years and 6% among people aged >65 years. Children and elderly are especially vulnerable sub-population groups and special interventions should be formulated to protect them.<sup>1</sup>

### References:

1. World Report on road traffic injury prevention, 2004
2. WHO Annual 2003 Report. Department of Injuries and Violence Prevention.
3. Nantulya VM et al. Introduction: the global challenge of road traffic injuries: can we achieve equity in safety? *Injury Control and Safety Promotion*, 2003,10:3-7.

Article written in collaboration with Nichole Dina (Health Promotion) and Winifred Agricole (MSc Nursing).

# Occupational Health

(Continued from Page 1)

Figure 5, presents the age distribution of the working active population in the country based on the last population census. Out of the total number of the economically active population in Seychelles, 93% were actively working. Among them 54% (21,841/40,735) were males. The majority of the working population (82%) was aged 20-49 years old. Among the people aged more than 50 years old, 13% were still actively working compared with 16% in industrialized countries<sup>(1)</sup> which is in accordance with the current dynamic changes seen in the age structures of the population in Seychelles.

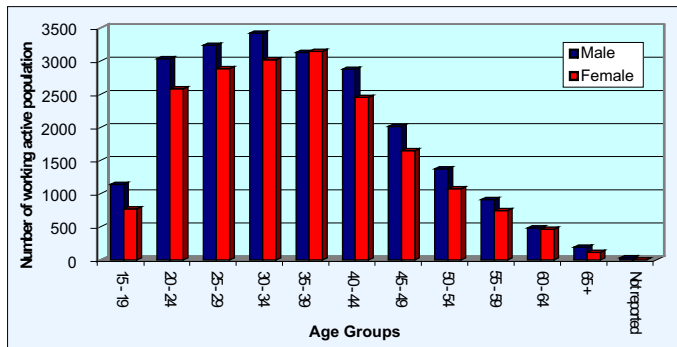


Fig. 5: Active working population by age group (Source: MISD)

## Occupational Accidents

A total of 285 occupational accidents were reported from January 2001 to December 2003 based on data gathered from the Ministry of Social Affairs and Employment (Inspectorate Division). Since completed information is available for 221 cases, the occupational accident rate based on the active working population was estimated at 3.8 per 1,000 workers. According to ILO, the rate for the European region was 42 per 1,000. However, it is difficult to compare these data with other countries or regions due to the under-reporting of cases in Seychelles.

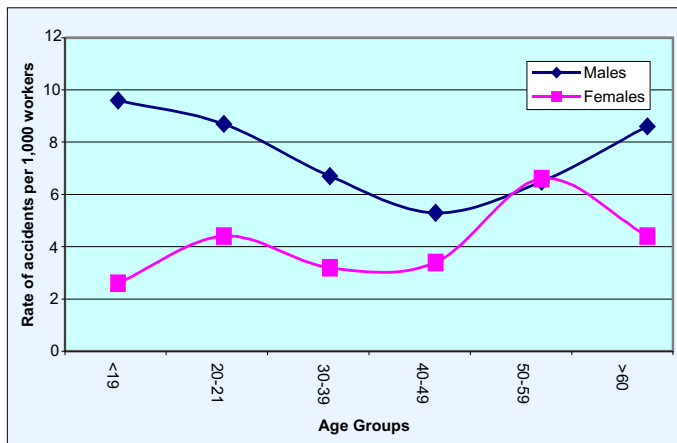


Fig. 6: Occupational accident rate per 1,000 active working population (MSAE)

Figure 6 shows the occupational accident rates by age and sex from January 2001 to December 2003. The highest occupational accident rate was among males, particularly among the age groups less than 19 years old and over 60. The highest rate among females was reported in the age group 50-59 years. The growth of the older section of the workforce associated with the demographic changes in Seychelles, and the growing demands on productivity which will require measures to adjust working conditions for older workers.

## Premature Retirement

In Seychelles, the official retirement age of workers is 63 years old. As much as possible people are encouraged to remain in active employment until retirement age and sometimes beyond. Figure 7 represents the main causes of premature retirement in 2003. Out of 23 cases of premature retirement, the most important causes were associated with cancer, followed by cardiovascular diseases, diabetes, amputations and alcohol related problems.

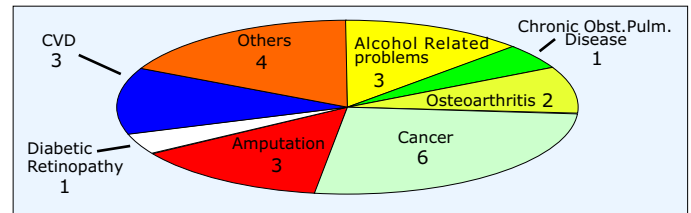


Fig. 7: Premature retirement on medical grounds

One of the functions of occupational health is to assess workers wishing to retire prematurely for medical reasons. These include workers suffering from chronic illnesses, those who are terminally ill and those with incomplete recovery. The replacement of an experienced worker who retires early could be a problem for the organization. The occupational health staff considers whether the individual is capable of undertaking other duties in spite of the illness. If so, redeployment of the worker to a different job within the organization is a suitable alternative.

### References:

1. WHO: Global Strategy on Occupational Health for All.
2. Ministry of Economic Planning- MISD.

Article written in collaboration with Dr. Meggy Louange

## Assessing the cardiovascular disease situation in Seychelles



A national survey of non-communicable diseases (NCD), and particularly cardiovascular disease risk factors (CVD), is being conducted in Seychelles between April and September 2004.

Characteristics of this population survey include:

- A random sample of 1500 eligible participants selected from the general population (based on the 2002 census);
- Participants aged 25 to 64 years;
- Questionnaire on lifestyle and diet;
- Questionnaire on knowledge, attitudes and practices related to NCD;
- Measurement of main CVD risk factors including body weight, blood pressure, blood lipids, blood sugar, insulinemia, CRP, and microalbuminuria;
- Strong emphasis on diabetes (including levels of awareness and control, also HbA1c);
- Assessment of atherosclerosis burden in carotid and femoral arteries using ultrasound;
- Use of WHO-based STEPS methodology;
- Point-of-care analysers are used for blood and urine tests, which allows giving results and relevant counselling immediately to participants.

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## Assessing the cardiovascular disease situation in Seychelles

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The survey will provide information on the distribution of risk factors in the entire population ("risk factors of today are CVD of tomorrow"). This epidemiological data will be useful for planning health care, programs, and policy to reduce the burden of NCD/CVD over the next decade.

Some results of the previous national population-based surveys in 1989 and 1994 (age 35-64) are shown in the Table1. Prevalence of high blood pressure, high cholesterol, overweight (women), and smoking (men) was high or very high by international standards.

(Age 35-64)	Men		Women	
	1989	1994	1989	1994
High blood pressure ( $\geq 140/90$ mmHg)	54.1	61.0	45.3	43.7
Elevated total cholesterol ( $\geq 5.2$ mmol/l)	41.8	55.2	57.3	69.8
Smoking ( $\geq 1$ cigarette/day)	53.8	41.2	12.5	8.4
Overweight (BMI $\geq 25$ kg/m <sup>2</sup> )	31.4	43.5	61.1	68.1
Diabetes (FBG $\geq 7$ mmol/l)	6.6	-	7.0	-
Leisure exercise $\geq$ once weekly	3.1	19.8	1.6	13.1
Substantial physical exercise at work	36.3	13.6	17.7	2.3

Table1: Prevalence of high blood pressure, high cholesterol, overweight, and smoking.

The few modifiable risk factors mentioned in the Table account for most new cases of CVD in demographically stable populations. However, the burden of NCD also largely depends on the age distribution of a population. Indeed, the risk of developing CVD increases sharply with age and is highest among middle-aged and older persons.

The graphic shows that the population of Seychelles aged 30-50 increased 2-3 times from 1976 to 2003. This demographic transition implies a similar 2-3 fold increase in the number of population aged 50-70 over the next 20 years. This unprecedented increase in the number of older persons (inherently at highest risk of developing CVD) predicts a commensurate 2-3 fold increase in the burden of CVD and other NCD over the next 2-3 decades in Seychelles.

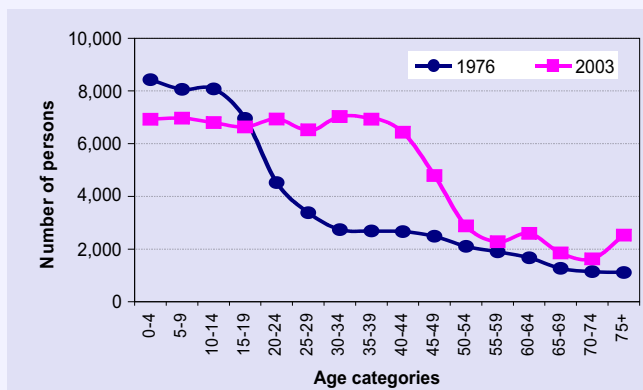


Figure 8: Population of Seychelles by age groups.

This emphasizes the need to plan for a largely increased health care capacity to respond to the increase of CVD cases over the next 2-3 decades and to urgently upgrade programs and policies aimed at primary prevention of CVD.

### References

- High prevalence of cardio-vascular risk factors in the Seychelles. *Arteriosclerosis & Thrombosis* 1991;11:1730-6.
- The Seychelles Heart Study II. Methods and basic findings. *Seychelles Medical and Dental Journal* 1997;5:8-24 (full text in <http://www.seychelles.net/smdj>).

## CONFERENCES & MEETINGS

02-06 Aug. 2004	Health Promotion Workshop	Kampala, Uganda
09-13. Aug. 2004	Team Building for Managers	Mahe, Seychelles
01-26. Nov. 2004	Medicine Information Services Seminar	Cape Town, South Africa

## NEW PUBLICATIONS

	Scaling up Anti-Retroviral Therapy in Resource limited Settings. Year - 2004 <b>Available at MoH</b>		Tools for Assessing Operationality of District Health System Year - 2004 <b>Available at MoH</b>
	Guide to drug Financing mechanisms Year - 2004 <b>Available at MoH</b>		Global Tuberculosis Control - Surveillance, Planning, Financing Year - 2004 <b>Available at MoH</b>
	Promoting Mental Health - Concepts, Emerging Evidence & Practice Year - 2004 <b>Available at MoH</b>		Implementing Antimicrobial Drug Resistance Surv.& Containment for HIV, TB and Malaria Year - 2004
	Advocacy Guide: HIV/AIDS Prevention among Injecting Drug Users Year - 2004 <b>Available at MoH</b>		Report of WHO technical advisory group on elimination of leprosy Year - 2004 <b>Available at CDCU</b>

DETAILS AVAILABLE AT: [HTTP://BOOKORDERS.WHO.INT](http://BOOKORDERS.WHO.INT)

## WEBSITES

SUBJECT	ADDRESS
Ministry of Health - Seychelles	<a href="http://www.moh.gov.sc">www.moh.gov.sc</a>
Tropical Diseases Research	<a href="http://www.who.int/tdr">www.who.int/tdr</a>
World Bank	<a href="http://www.worldbank.org/">www.worldbank.org/</a>
World Health Report	<a href="http://www.who.int/whr/en/">www.who.int/whr/en/</a>
WHO Vacancies	<a href="http://erecruit.who.int">http://erecruit.who.int</a>
JAMA publication	<a href="http://www.jama.com">www.jama.com</a>
Global Health Network	<a href="http://www.pitt.edu/~super1/">www.pitt.edu/~super1/</a>
Occupational Health	<a href="http://www.cdc.gov/niosh">www.cdc.gov/niosh</a>
Occupational Health	<a href="http://www.who.int/oeh">www.who.int/oeh</a>
XV Integrated AIDS Conference	<a href="http://www.AIDS2004.org">www.AIDS2004.org</a>
Traffic Accident	<a href="http://www.who.int/voilence-injury-prevention">www.who.int/voilence-injury-prevention</a>
Traffic Accident	<a href="http://www.who.int/world-health-day/2004">www.who.int/world-health-day/2004</a>
Traffic Accident	<a href="http://www.worldbank.org/transport/forum_2003">www.worldbank.org/transport/forum_2003</a>

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