HIGHLIGHTS OF HEALTH IN ISRAEL

2011



ISRAEL CENTER FOR DISEASE CONTROL (ICDC)

PUBLICATION 344
AUGUST 2012

MINISTRY OF HEALTH

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Opening Messages

Message from the Director General, Ministry of Health

It gives me great pleasure to introduce this publication: "Highlights of Health in Israel 2011", which contains important data relating to central health issues of the Israeli population, analysed by gender and by population group. Data are presented here on basic health indicators, on morbidity and mortality from infectious and chronic diseases, on risk factors for disease, on injuries and on lifestyle and behaviors affecting health.

The trends graphically presented in this booklet indicate significant improvements in the health status of the population, as reflected in the increase in life expectancy in all population groups and the declining trends in infant mortality and cardiovascular and infectious diseases. We hope that future publications will witness further improvements, such as the closing of health gaps between population sub-groups, and the adoption of healthier lifestyles (including reduced rates of obesity and smoking and fuller participation in physical activity).

I have no doubt that the information contained in this volume will be of great value to researchers, students and members of the health professions in Israel and abroad. I wish to thank the Israel Center for Disease Control for this important contribution to the body of knowledge regarding the health of the population of Israel.

Sincerely,

Prof. Ronni Gamzu
Director General, Israel Ministry of Health

Introduction

This publication represents an update and summary of the ICDC's comprehensive volume, "Health Status in Israel 2010", which was published in Hebrew in September 2011. The information presented here includes data on basic health indicators such as fertility rates, life expectancy and infant mortality; on trends in morbidity and mortality from chronic and infectious disease and injuries; and on behaviors and lifestyles associated with individual and population health.

Over the course of the past decades there have been impressive achievements in health in Israel, such as the marked improvement in life expectancy and the sharp decline in infant mortality and in mortality from cardiovascular and infectious diseases, in all population groups. However, the health system of Israel still faces many challenges in the years ahead. This is reflected in official health policy guidelines which lay emphasis on the promotion of healthy lifestyles and on the reduction of health inequalities between the various population groups in Israel.

My sincere thanks to all who contributed to the preparation of this important publication, and to the tireless efforts of all our colleagues in the health system to improve the health of the population of Israel.

Prof. Tamy Shohat

Director, Israel Center for Disease Control
Ministry of Health.

Health Indicators

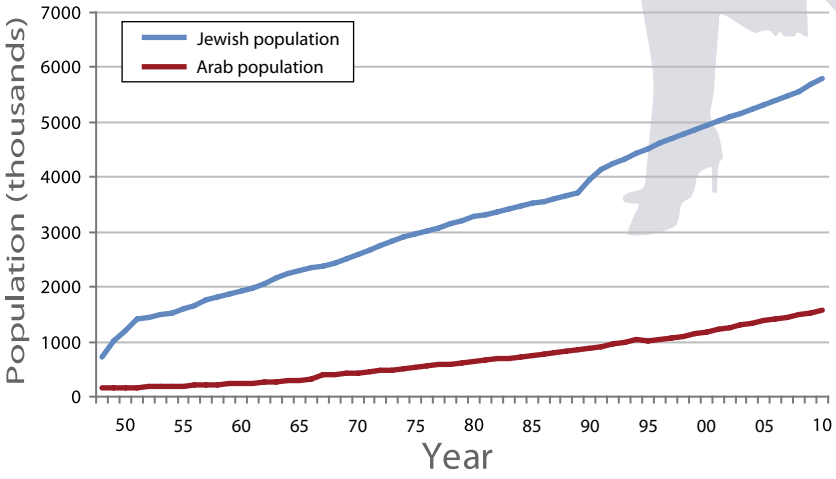
Chapter 1: Health Indicators

1.1 Demographic Indicators

Size of Population

At the end of 2010, the official population of Israel numbered 7,695,100 persons: 5,802,900 Jews (75.4%), 1,573,800 Arabs (20.5%) and 318,400 "others" (non-Arab Christians and citizens not classified by religion) (4.1%).

Figure 1: Population growth in Israel, 1948-2010



Population Growth

Since the establishment of the State of Israel in 1948, the population has increased by a factor of 8.5 (by 8.1 in the Jewish population and by 10.1 in the Arab. population) *(Figure 1)*.

Ethnic origin

According to 2010 population figures, 72% of the Jewish population are Israeli-born, and 28% were born abroad.

With respect to ethnic origin (defined as father's country of birth), 33.4% of the Jewish population are of European or American origin, 15.4% are of African origin and 12.1% are of Asian origin. 39% are of Israeli origin (second generation or beyond).

In the Arab population, 82.5% are Moslems, 9.5% are Christian and 8% are Druze.



Age trends

The population of Israel is aging rapidly. The proportion of children aged 0-4 declined from 14.2% in 1955 to 10.2% in 2010. Conversely, the proportion of persons aged 65 and older increased, from 4.7% in 1955 to 9.9% in 2010.

Figure 2: Jewish population by age and sex, Israel 2010

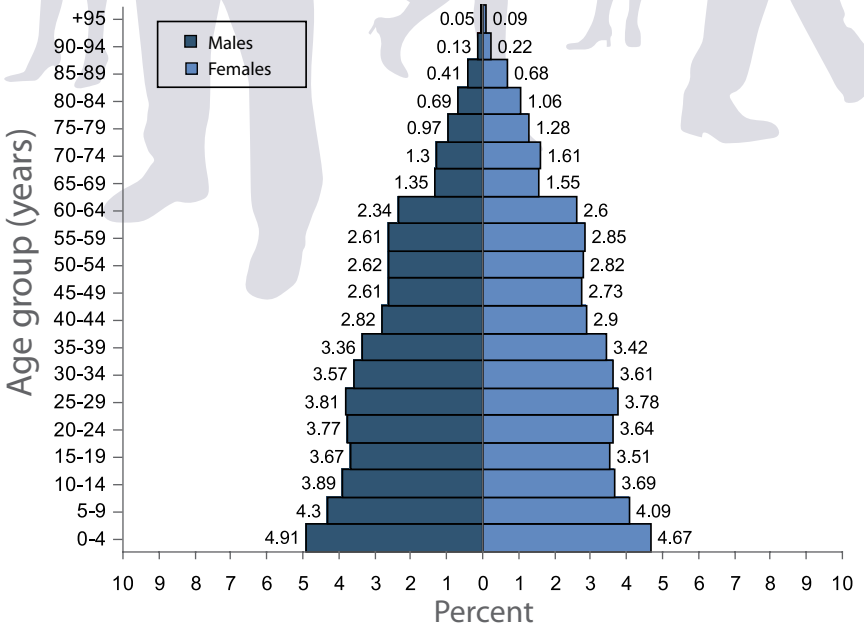
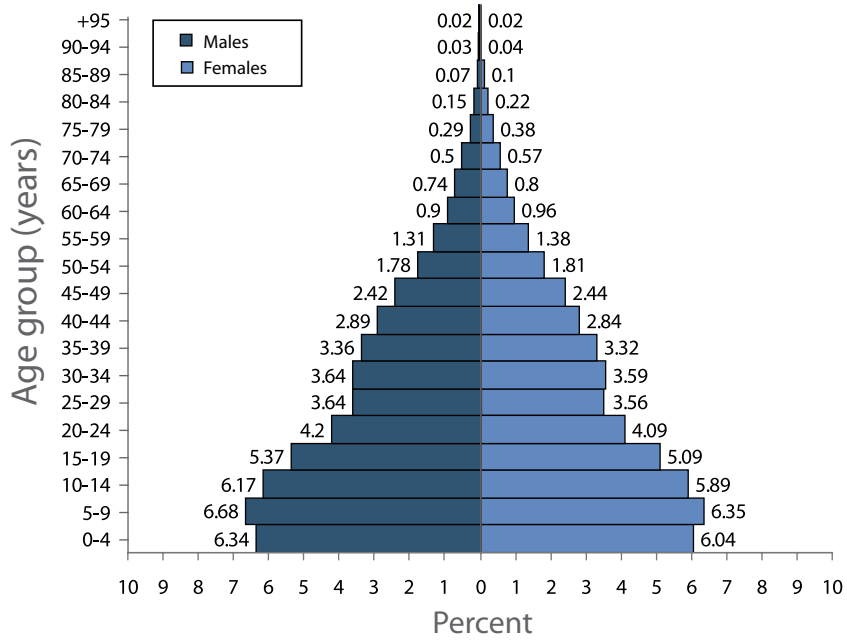


Figure 3: Arab population by age and sex, Israel 2010





Age and sex distribution

Israel's population is relatively young. 28% of the population of Israel in 2010 were under age 14. In most other western countries, this age group comprises between 14-20% of the population.

9.9% of the population of Israel in 2010 were aged 65 and above. In most other western countries this proportion is higher (e.g. 13.1% in North America, 15.3% in Europe).

The Arab population in Israel is younger than the Jewish population: 35.2% of the Arab population in 2010 were under age 14 as compared with 24.1% of the Jewish population; and 3.9% were over age 65, as compared with 11.4% of the Jewish population *(Figures 2,3)*.

Socio-economic indicators

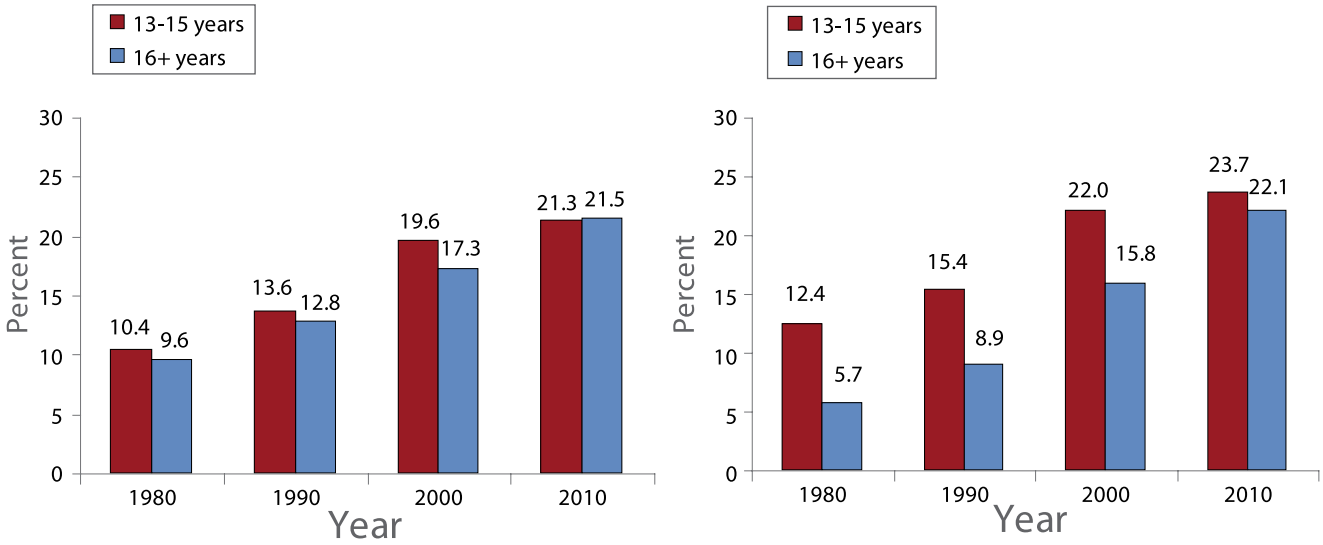
Educational level



The educational level of the Israeli population is rising steadily. In both the Jewish and the Arab populations, the proportion of the population with only high-school education has decreased, and the proportion with post-high school education has increased *(Figure 4)*.

In 2010, 42.8% of men and 45.8% of women in Israel had post-high school education.

Figure 4: Post-secondary education by years of education and sex, selected years (percent)



Poverty

According to the 2010 "Poverty Report" published by the National Insurance Institute in November, 2011:

433,300 families in Israel (19.8% of all families) were living under the poverty line (14.3% of Jewish families and 53.2% of Arab families).

30.5% of single-parent families were living under the poverty line.



Unemployment

The unemployment rate in Israel in 2010 was 6.6%.

1.2 Fertility

Total fertility rate

The total fertility rate in Israel in 2010 was 3.0.

In Jewish women, the total fertility rate was 3.0, in Moslems, 3.8, in Druze, 2.5, and in Arab Christians, 2.1.

Figure 5: Total fertility rate in Israel by population group, 1960-2009

Trends

Since the 1960's, the total fertility rate has declined in all population groups. In Jewish women, the rate declined by approximately 17%, in Moslem women by 58%, in Druze by 66% and in Arab Christians, by 54% *(Figure 5)*.

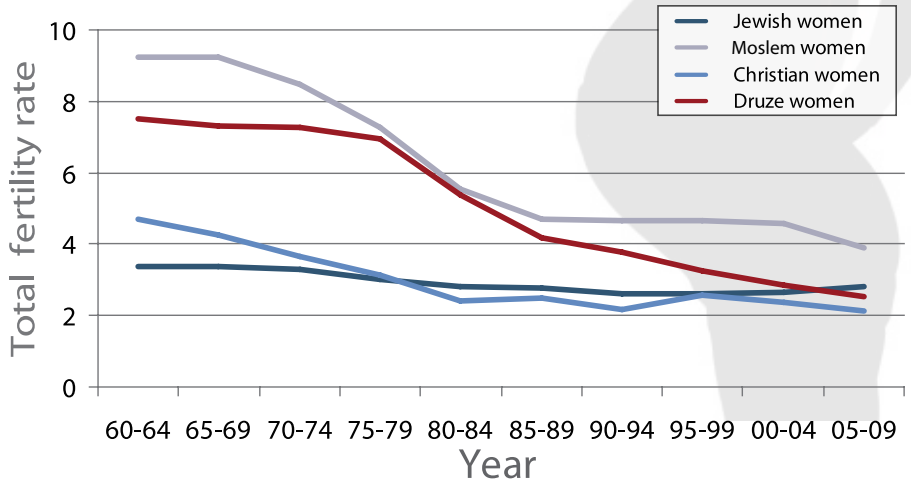
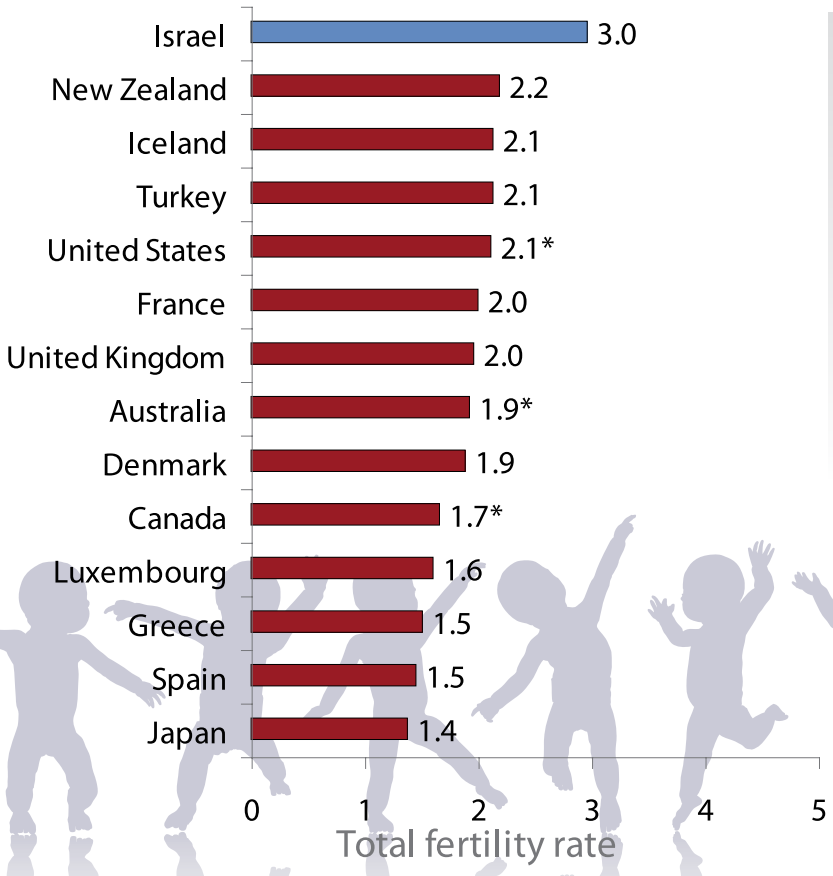


Figure 6: Total fertility rate in Israel and selected OECD countries, 2008



The total fertility rate is higher in Israel than in other OECD countries *(Figure 6)*.

* Data are for 2007, the latest year available



In-vitro fertilization

In 2009, 6,619 children were born following in-vitro fertilization (4.2% of all births).

Since 1995, there has been a consistent increase in the number of pregnancies per treatment cycle. In 2009, the success rate was 24.4%.

Birth control and termination of pregnancy

In the INHIS-2 survey of 2007-2008, 61.2% of women aged 21-44 reported that they had at some time used oral contraceptives for the purpose of birth control.
In 2010, 19,531 legal terminations of pregnancy were performed.
Between 1996-2010, the rate of termination of pregnancy declined by approximately 15%.

Hormone Replacement Therapy

In the INHIS-2 survey of 2007-2008, 7.1% of Jewish women aged 45-75 reported that they were currently using hormone replacement therapy (HRT) or natural treatments for the relief of menopause symptoms. A further 18.5% reported that they had used HRT in the past.

Maternal mortality

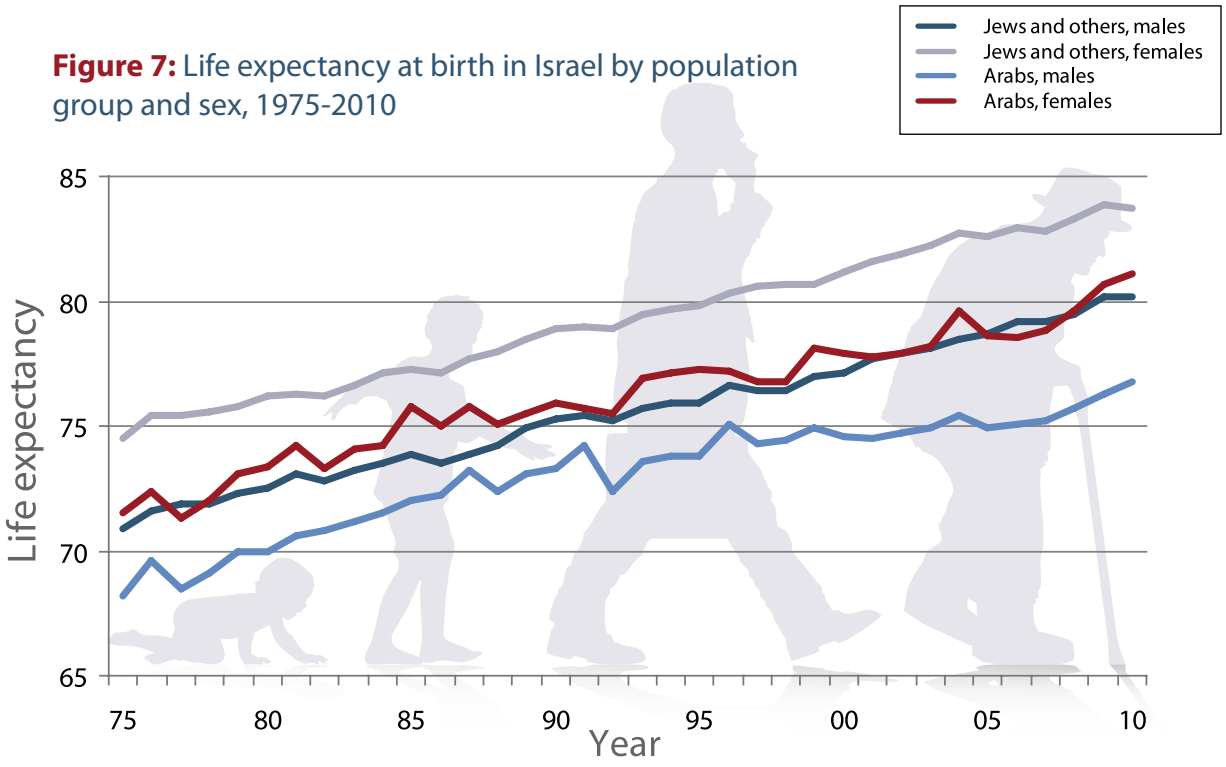
In 2009, there were 5 deaths of women from pregnancy-related causes. The maternal mortality rate was 3 per 100,000 live births.

1.3 Life expectancy

Life expectancy at birth

In 2010, the average life expectancy at birth in Israel was **79.7 years for men and 83.4 years for women.**
Average life expectancy at birth was **80.4 for Jewish men, 83.7 for Jewish women, 76.8 for Arab men and 81.0 for Arab women.**

Figure 7: Life expectancy at birth in Israel by population group and sex, 1975-2010



Trends (1)

Between 1975 and 2010, **average life expectancy at birth** increased by 9.4 years in men and by 9.5 years in women.

For Jewish men, the increase was 9.3 years, for Jewish women, 9.2 years, for Arab men, 8.6 years and for Arab women, 9.6 years *(Figure 7)*.

Trends (2)

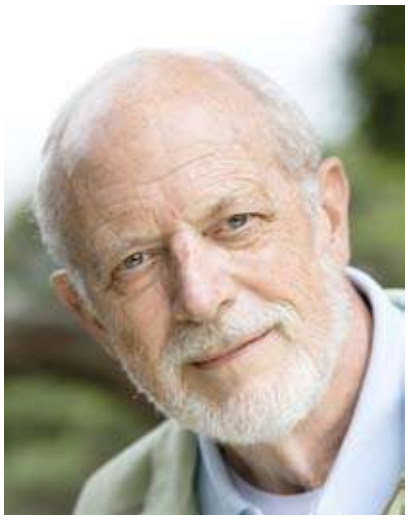
The gap between Jews and Arabs in life expectancy at birth has widened over the past decades, specifically among men. In 2010, the difference between Jewish and Arab men was 3.6 years, as compared to a difference of 2.7 years in 2000 and a difference of 2 years in 1990.

In women, the life expectancy gap between Jews and Arabs has diminished over the past decade, from a difference of 3.3 years in 2000 to a difference of 2.6 years in 2010.

Trends (3)

Between 1975-2010, **life expectancy at age 20** increased in men and women in both population groups. The increase was approximately 30% greater in Jewish women than in Arab women and approximately 60% greater in Jewish men than in Arab men.

Between 1975-2010, **life expectancy at age 65** increased steadily. The increase was twice as great in Jewish as in Arab men, and 70% greater in Jewish women than in Arab women.





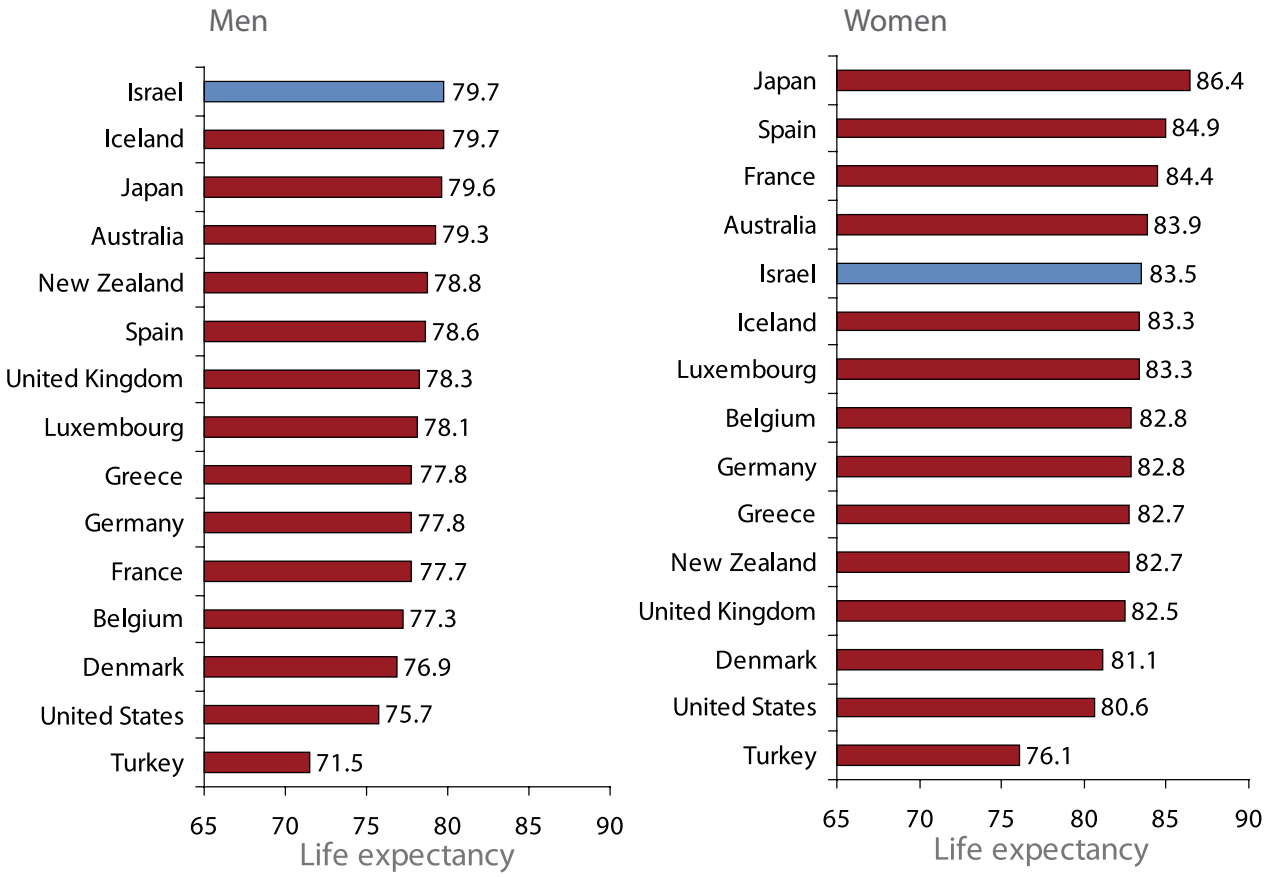




International comparison

Life expectancy of men in Israel is relatively high, in comparison with the other OECD member countries. For women in Israel, life expectancy is average, compared with the other OECD countries *(Figure 8)*.
The life expectancy advantage for women in Israel is smaller (3.8 years in 2009) than in most of the OECD countries (5 years, on average).

Figure 8: Life expectancy at birth in Israel and selected OECD countries, by sex, 2009



1.4 Infant Mortality

General

In 2010, there were 611 infant deaths in Israel.
The overall infant mortality rate in 2010 was 3.7 per 1,000 live births. In Jews the rate was 2.7 and in Arabs, 6.9 per 1,000 live births.

The main causes of mortality in infants under the age of 12 months are prematurity and congenital malformations.

In 2005-2009, neonatal mortality rates (0-27 days) were 2.5 per 1,000 live births, and post-neonatal mortality rates (28-365 days) were 1.5 per 1,000 live births.

Trends in Infant Mortality (1)

Between 1978-2010, the overall infant mortality rate (IMR) in Israel declined by approximately 79% *(Figure 9)*.

Figure 9: Infant mortality in Israel, 1955-2010

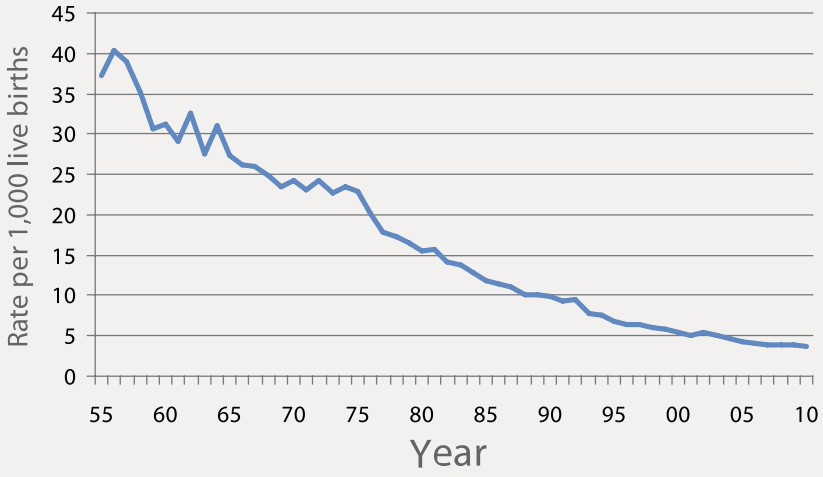
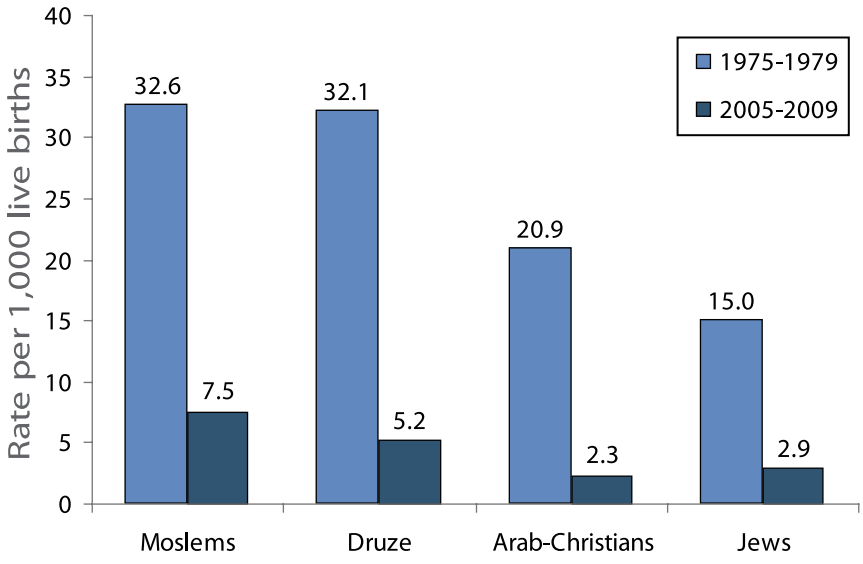


Figure 10: Infant mortality in Israel by population group, 1975-1979 and 2005-2009



Trends in Infant Mortality (2)

In Jews, the IMR declined by 81%; in Moslems, by 75%; in Druze by 89% and in Christians, by 85% *(Figure 10)*.
Between 1998-2008, IMR's among very low birth weight infants (less then 1,500 gm) declined by over 30%.

Risk factors

Infant mortality rates are higher in the Arab population than in the Jewish population, in all geographical districts.

The highest infant mortality rates were observed in infants of mothers under age 20 and over age 40, among both Jews and Arabs.

Infant mortality rates were twice as high among infants of mothers with less than 12 years of education, as compared with mothers with 13 or more years of education.

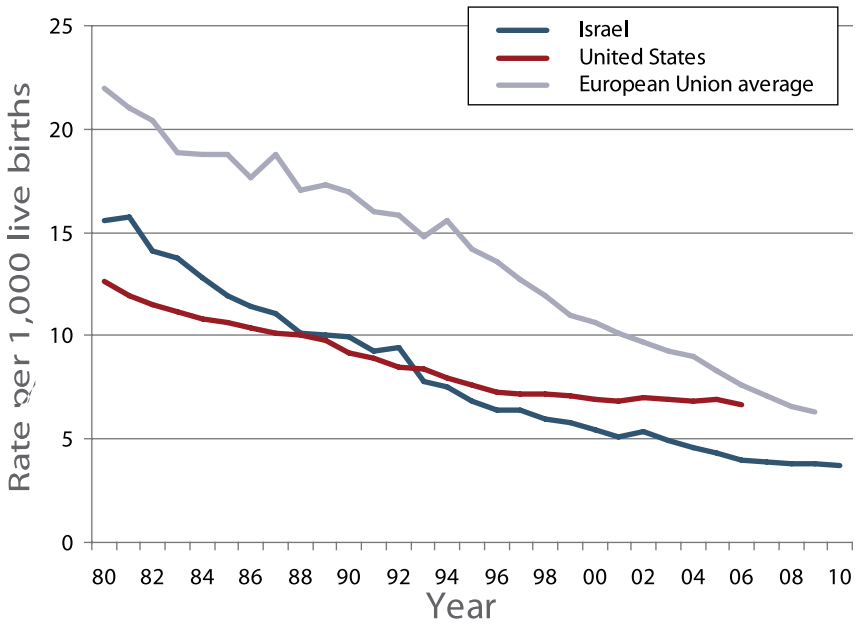


UN Millennium Development Goal

According to the UN Millennium declaration of 2000, the stated goal was to reduce infant mortality by two-thirds by the year 2015, as compared to the baseline rate reported in 1990.

Between 1990-2010, the infant mortality rate in Israel declined by 66% in the Jewish population and by 54% in the Moslem population. An additional decline of 12% in the Moslem population will lead to achievement of the Millennium goal for 2015.

Figure 11: Infant mortality in Israel, the United States and the European Union, 1980-2010



International comparison

The overall infant mortality rate in Israel in 2009 was lower than the average infant mortality rate in OECD member states.
Similar declining trends in infant mortality are evident in Israel and the European Union. In the United States, there was a more gradual decline *(Figure 11)*.

1.5 Leading Causes of Death

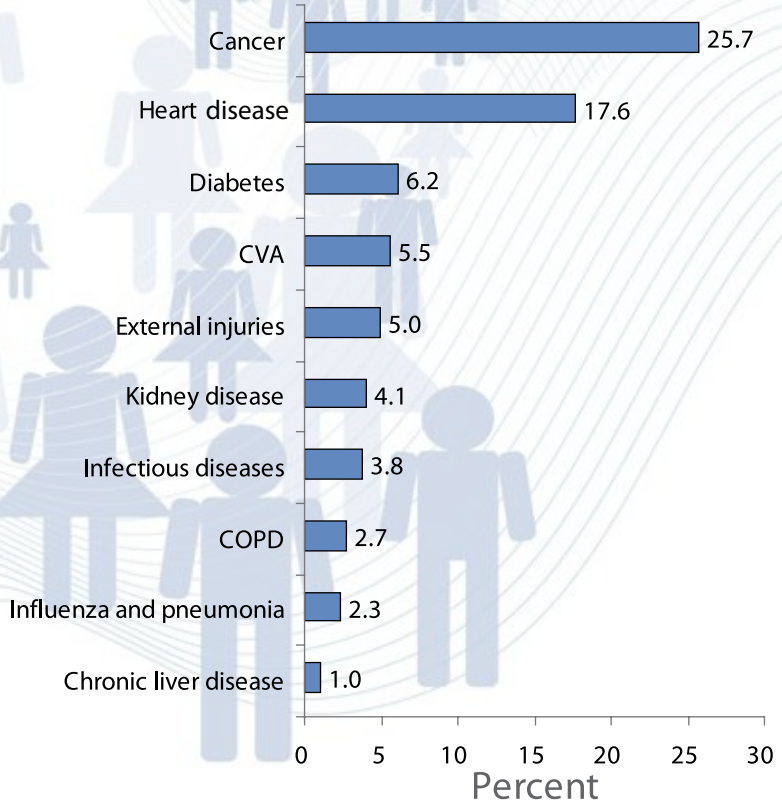
General

In 2009 there were 38,595 deaths in Israel: 19,143 males and 19,452 females.

Cancer has been the leading cause of death in Israel since 1999.

The five leading causes of death in 2009 were cancer (25.7%), heart disease (17.6%), diabetes (6.2%), stroke (5.5%) and external injuries (5%) *(Figure 12)*.

Figure 12: Leading causes of death in Israel, 2009



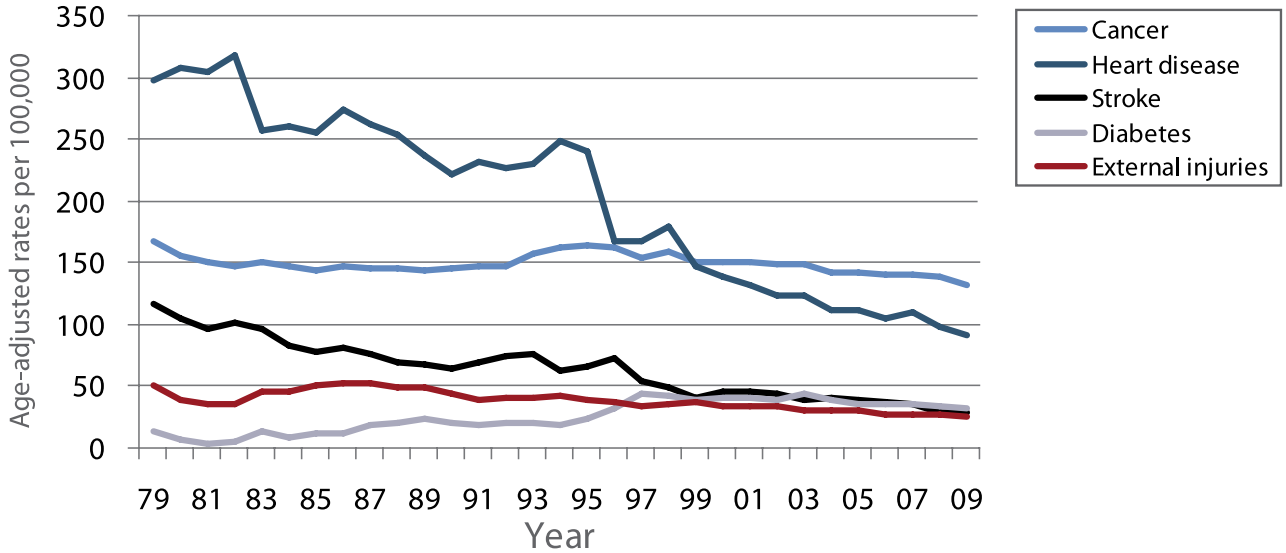
Trends in Leading Causes of Death (1)

Between 1979-2009, rates of mortality from heart disease declined markedly, while cancer mortality rates remained relatively constant. From 1996 onwards, cancer mortality rates were higher than heart disease mortality rates.

Trends (2)

During that period, mortality rates from stroke and external injuries declined, while diabetes mortality rates increased *(Figure 13)*.

Figure 13: Mortality from cancer, heart disease, stroke, diabetes and external injuries in Israel, 1979-2009

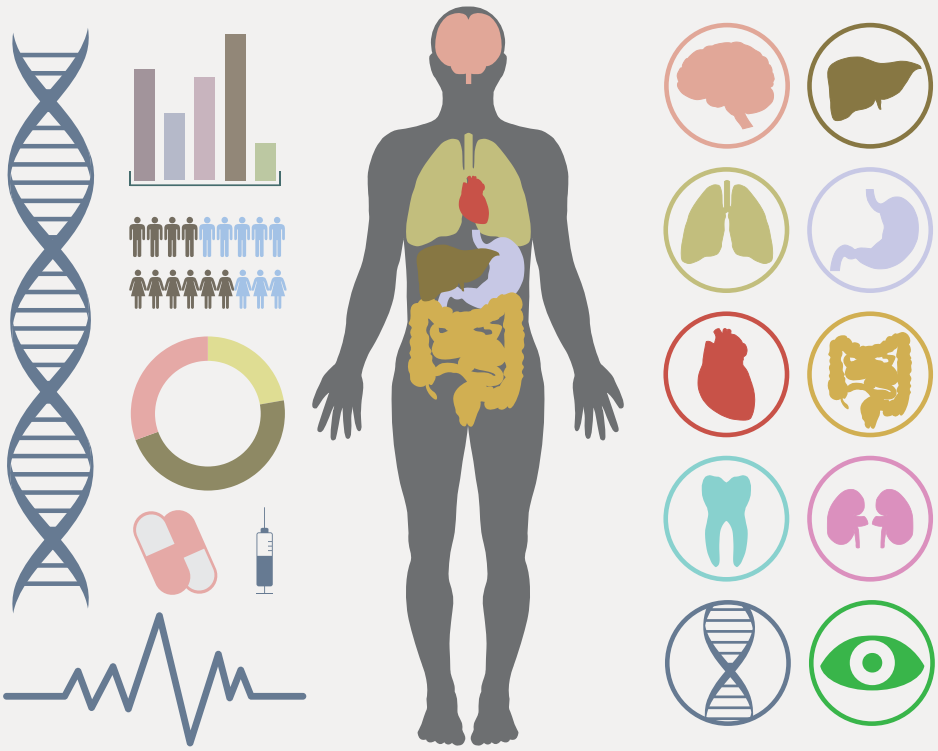


Population group and sex

In 2009, cancer was the leading cause of death in both Jews and Arabs.

The three leading causes of death in Jewish males were cancer, heart disease and external injuries; in Arab men the three leading causes of death were cancer, heart disease and diabetes.

In women, the three leading causes of death in both Jews and Arabs were cancer, heart disease and diabetes.



Age (1)

In 2009, the leading causes of death among ages 1-4 and 4-14 were external injuries, congenital malformations and cancer.

Among ages 15-24 and 25-44, the leading causes of death were external injuries, cancer, and heart disease.

Age (2)

Among ages 45-64 the leading causes of death were cancer, heart disease, and external injuries.

Among ages 65-74 the leading causes were cancer, heart disease and diabetes; and among ages 75 and over, the leading causes of death were heart disease, cancer and stroke.



International comparison

Rates of mortality attributed to cancer, ischemic heart disease and stroke in Israel are relatively low in Israel, compared with the other OECD countries.

Rates of mortality attributed to diabetes are very high in Israel, compared to most of the other OECD countries. The explanations for these differences are presently being investigated, including the possible implications of changes in the coding of causes of death.

1.6 Vaccination coverage in children



General

"Vaccination coverage in children" is calculated as the number of children in an age cohort who have been vaccinated, as a percentage of all children registered at the family health centers. (Note: infants not registered at family health centers are not included in the official statistics.)

The percentage of vaccination coverage in infants is very high, and in certain districts is close to 100%.

The vaccination coverage of children reaching age two years in 2008 was over 90% for most vaccinations, among both Jewish and Arab children.

Vaccination coverage at age two years is generally higher for Arab children than for Jewish children.

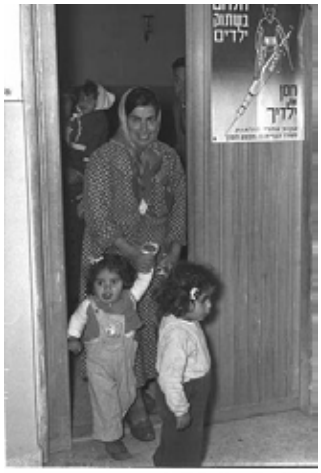
Vaccination of children in the early days of the State of Israel

1953



GPO; photograph by Teddy Brauner

1957



GPO; photograph by Hans Pinn

1966



GPO; photograph by Ilan Brunner

1967



GPO; photograph by Moshe Pridan

International comparison

Vaccination coverage in Israel against polio, measles, rubella and pertussis is similar to the coverage reported in the countries of the European Union, and ranges between 94%-96%.

1.7 Congenital anomalies and hereditary disorders

General

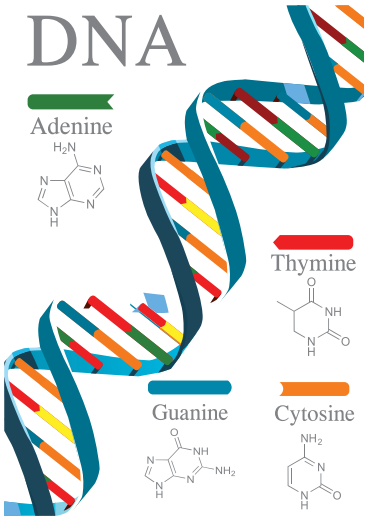


In 2008, 2,576 neonates were reported as having been diagnosed with congenital anomalies. The rate per 1,000 live births was 15.5 in the Jewish population and 19.2 in the Arab population.

Between 2001-2008 there was a moderate increase in the rate of congenital anomalies reported in the Arab population.

The most common congenital anomalies in 2008 were those of the cardiovascular system, which comprised approximately 42% of all congenital anomalies in both the Jewish and the Arab populations.

Hereditary disorders, which are important risk factors for morbidity and mortality, are more common in the Arab population than in the Jewish population, due to high rates of consanguineous marriage.



Open neural tube defects

In 2009, 150 cases of open neural tube defects (NTDs) were diagnosed (by prenatal diagnosis, or in stillbirths or live births): 110 in the Jewish population, 26 in the non-Bedouin Moslem population and 14 in the Bedouin population.

Between 1999-2001 and 2007-2009, rates of births with open NTDs declined from 11.4 to 8.4 per 10,000 live births in the Jewish population and from 21.8 to 9.2 per 10,000 live births in the non-Bedouin Moslem population. In the Bedouin population the rates declined from 29 to 22.7 per 10,000 live births.

Down syndrome

In 2008-2009, Down syndrome was diagnosed in 643 pregnancies (530 in the Jewish population and 113 in the Arab population). 19 of these pregnancies continued to delivery (12 in the Jewish population and 7 in the Arab population).

Between 2002-2009, the rate of infants born with Down syndrome declined in Jewish women over age 35. In Arab women the rates remained stable.

In 2008-2009, 178 Jewish infants and 87 Arab infants were born with Down syndrome.



Mortality due to congenital anomalies

Congenital anomalies are the leading cause of death among infants and children under age 4 years in the Arab population.

In 2009, mortality rates due to congenital anomalies among ages 0-4 years were 3.2 times higher among Arab than Jewish males, and 5.8 times higher among Arab than Jewish females.

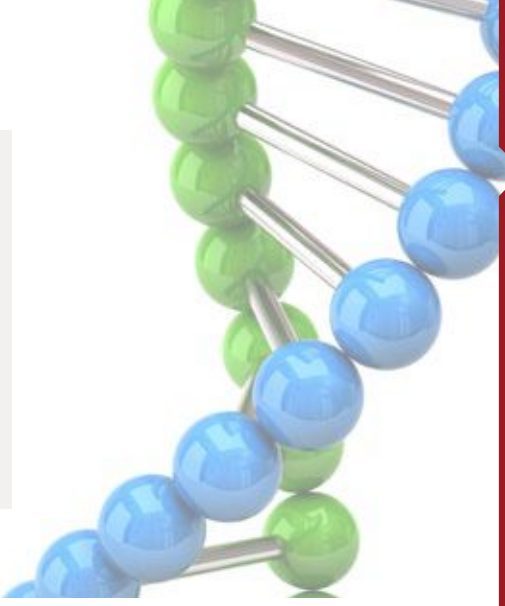
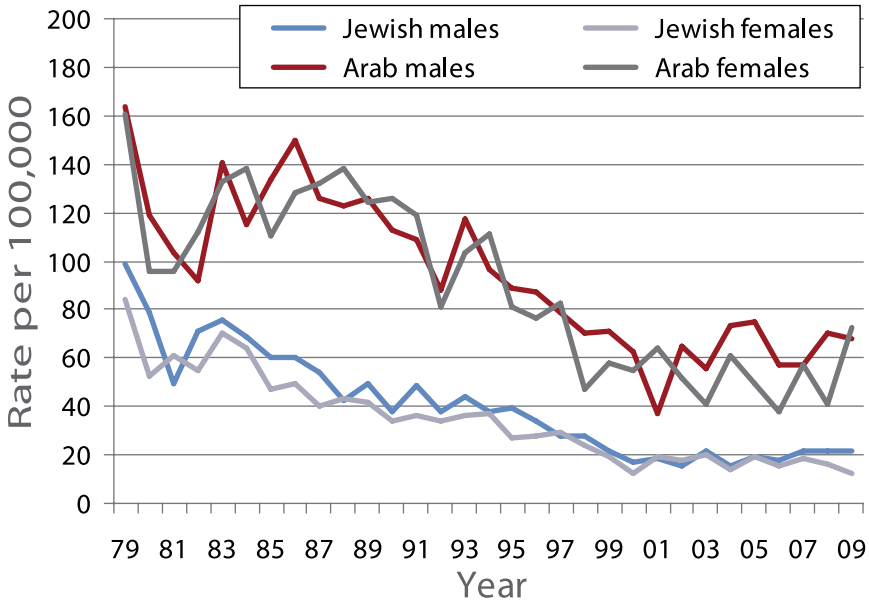


Figure 14: Mortality from congenital anomalies among ages 0-4 in Israel, 1979-2009



Trends in mortality

Between 1979-2009, rates of mortality due to congenital anomalies among ages 0-4 declined overall by 79% in Jewish males, by 58% in Arab males, by 85% in Jewish females, and by 55% in Arab females. However, during the past decade (2000-2009), mortality rates have remained relatively stable, in both the Arab and the Jewish populations *(Figure 14)*.

Prenatal diagnosis

In a national survey of women after delivery carried out in 27 hospitals in 2010, 69.1% of Moslem women and 60.9% of Jewish women reported having performed the "triple test" screening for the detection of elevated risk of chromosomal abnormalities.

The rates of amniocentesis for the detection and diagnosis of chromosomal abnormalities in women aged ≥35 were 46.9% in Jewish women and 15.8% in Moslem women. In women aged <35, the rates were 10.5% in Jewish women and 3.3% in Arab women.

Termination of pregnancy due to congenital anomalies

In 2009, 3,570 terminations of pregnancy were authorized due to congenital anomalies or prenatal pathologies (in the fetus or the mother). This represents 18.7% of all causes for termination of pregnancies in Jewish women and 25.3% of all causes in Arab women.

Chronic Diseases

2.1 Heart Disease



FINDINGS FROM THE ACSIS 2010 NATIONAL SURVEY

(1) Age

In the ACSIS 2010 National Survey of patients hospitalized with acute coronary syndrome (ACS*), the average age of male patients was 61.6 years for those in cardiology and ICCU wards, and 68.7 years for those hospitalized in Internal Medicine wards.

The average age of female patients was 70.5 years in cardiology and ICCU wards, and 75.7 years in Internal Medicine wards.

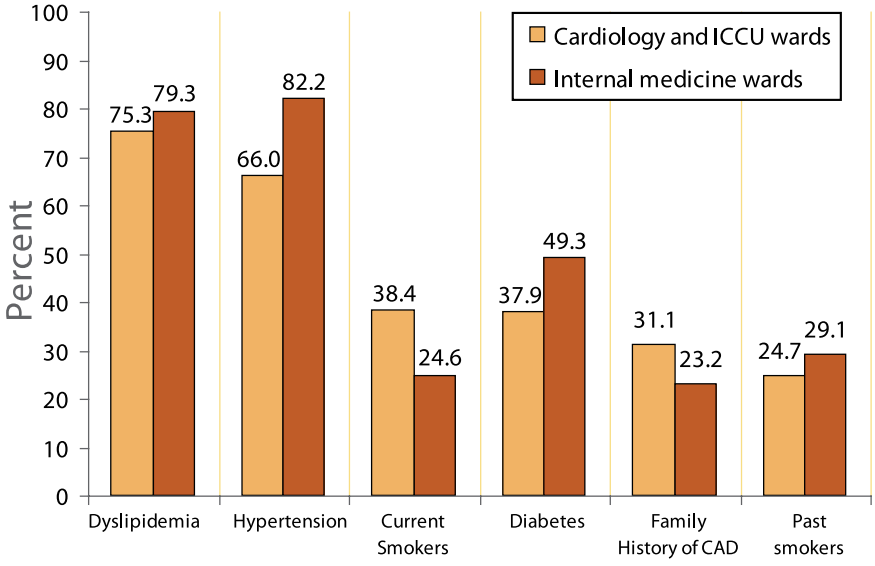
64% of men hospitalized in cardiology and ICCU wards were aged ≤65, as compared with 35% of women.

**acute myocardial infarction (AMI) or unstable angina pectoris (UAP).*

(2) Risk factors

The most common risk factor in patients hospitalized in cardiology and ICCU wards was dyslipidemia (75.3%). The most common risk factor in patients hospitalized in internal medicine wards was hypertension (82.2%) *(Figure 15).*

Figure 15: Risk factors among patients hospitalized with ACS, by ward. ACSIS National Survey 2010



(3) Trends in management and outcome of patients, ACSIS 2000-2010.

Figure 16: Use of primary reperfusion*
ACSIS National Surveys, 2000-2010
**in patients with ST elevation*

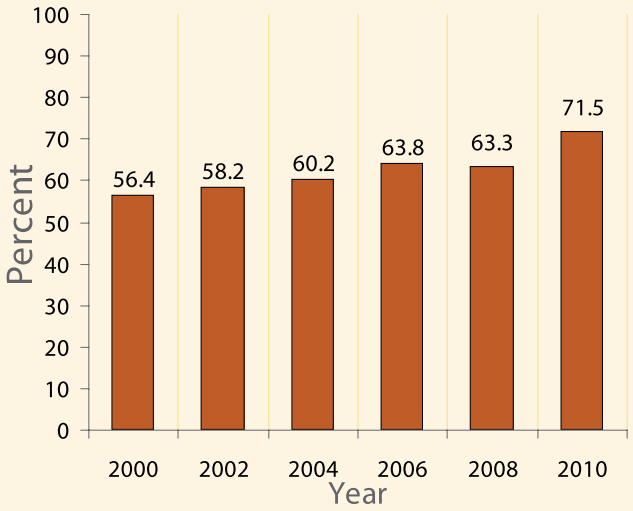
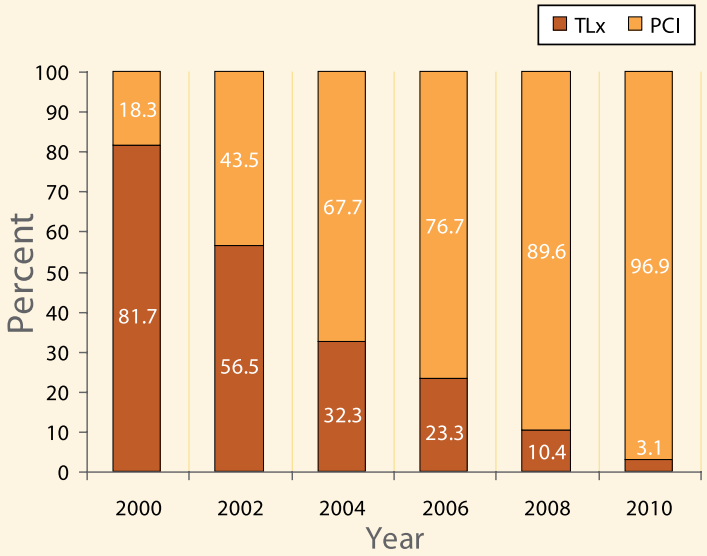


Figure 17: Type of primary reperfusion
ACSIS National Surveys, 2000-2010



Between 2000-2010, a 27% increase was reported in the use of primary reperfusion among patients hospitalized in cardiology and ICCU wards *(Figure 16)*. The use of thrombolysis declined markedly in favor of primary PCI *(Figure 17)*.

Between 2000-2010, 7-day and 30-day mortality in patients hospitalized with ACS declined by over 50%.





Self reported coronary heart disease

In the INHIS-2 National Health Survey of 2007-2008, 5.8% of respondents aged 21 and above reported having been diagnosed with coronary heart disease by a physician. The rate was 7.5% in men and 4.1% in women.

The prevalence rate of coronary heart disease was considerably higher among men than women in all age groups.

NATIONAL DATA: HOSPITALIZATIONS, SURGICAL INTERVENTIONS AND MORTALITY

Hospitalizations

Data from the national hospitalization database indicate that rates of hospitalizations due to all heart disease are higher in men than women, and reach a peak at age 75 and above: 3,617 per 100,000 in men and 2,535 per 100,000 in women.

Surgical interventions

Data from the national database of heart procedures indicates that between 2006-2010, a 32% decline was observed in the rate of coronary artery bypass grafts (CABG) performed in Israel.

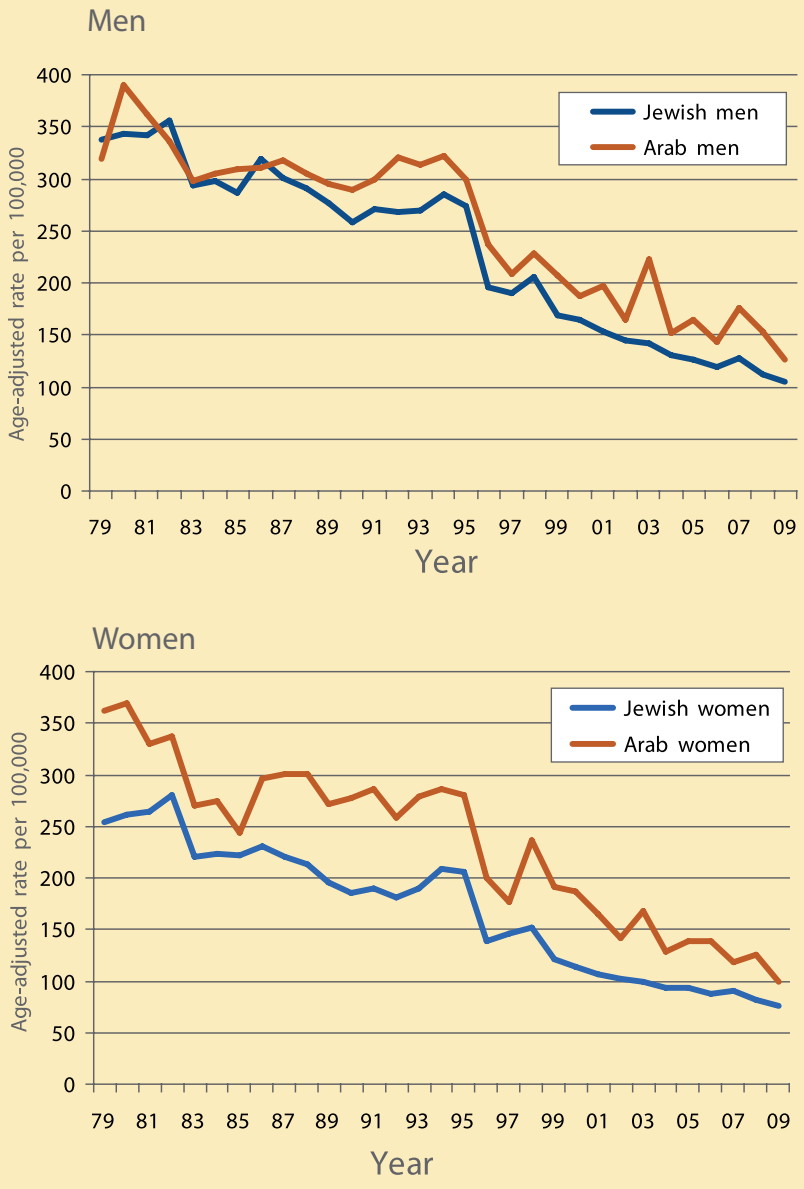
Between 2008-2010, the rate of interventional catheterizations (PTCA) performed decreased by approximately 14%. The rate of diagnostic catheterizations remained relatively stable.

Mortality

Heart disease is the second leading cause of death (following cancer) in the general population, and the leading cause of death in persons aged 75 or above. The majority of heart disease deaths are caused by ischemic heart disease. Between 1979-2009, age-adjusted mortality due to all heart disease declined by approximately 70% in both men and women *(Figure 18)*.

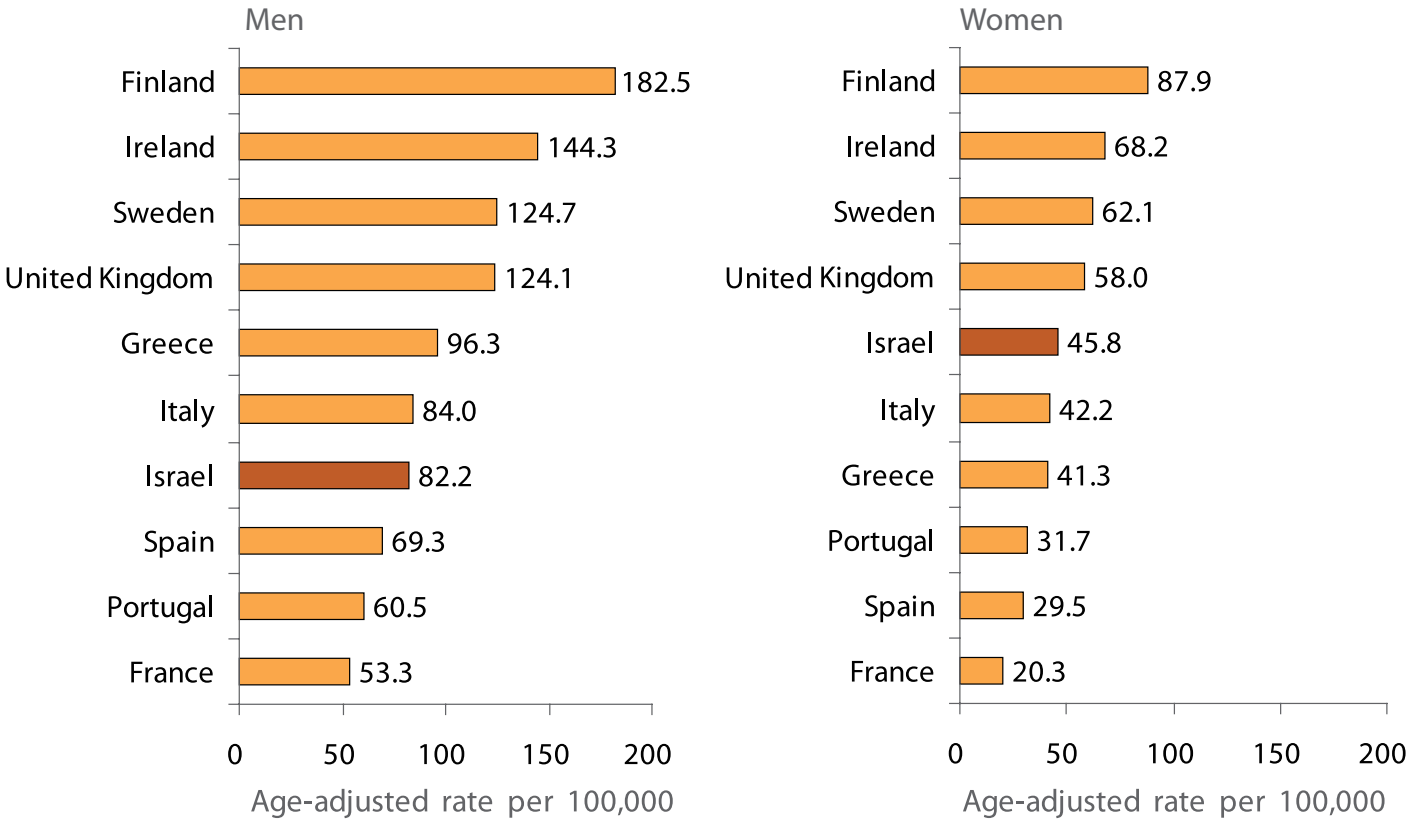
In 2009, age-standardized rates of all heart disease mortality were 1.4 times higher in Jewish men than Jewish women, and 1.7 times higher in Arab men than in Arab women *(Figure 18)*.

Figure 18: Mortality from all heart disease in Israel, by sex and population group, 1979-2009.



INTERNATIONAL COMPARISON

Figure 19: Mortality from ischemic heart disease in Israel and selected European Union countries, by sex, 2008.





In men, the ischemic heart disease mortality rate in Israel is lower than the European Union average. In women, the mortality rate is similar to the European Union average *(Figure 19)*.

2.2 Stroke

General



Stroke (also known as cerebrovascular accident or CVA) is the fourth leading cause of death in Israel.

Hypertension, the leading risk factor for stroke, is prevalent in Israel among older adults, both men and women *(see Chap. 4.1)*.

FINDINGS FROM THE NASIS 2010 NATIONAL SURVEY OF ACUTE STROKE

Age, sex and type of event

In the NASIS 2010 national survey of hospitalizations following stroke, the average age of patients hospitalized with ischemic stroke was 68.3 years in men and 73 years in women.

The average age of patients hospitalized with intra-cerebral hemorrhage was 68.6 years in men and 71.2 years in women.

The average age of patients hospitalized with transient ischemic attack (TIA) was 64.3 years in men and 67.8 years in women.













Risk factors

In the NASIS 2010 survey, data were collected regarding the main risk factors for stroke: hypertension, high blood cholesterol levels, smoking, atrial fibrillation, heart failure, peripheral vascular disease, prior stroke, and history of MI, angina pectoris, CABG and/or PTCA.

The most common risk factor in both male and female patients was hypertension (78.6% in men and 76.8% in women). In addition, high prevalence rates of diabetes and high levels of blood cholesterol were found in both men and women.

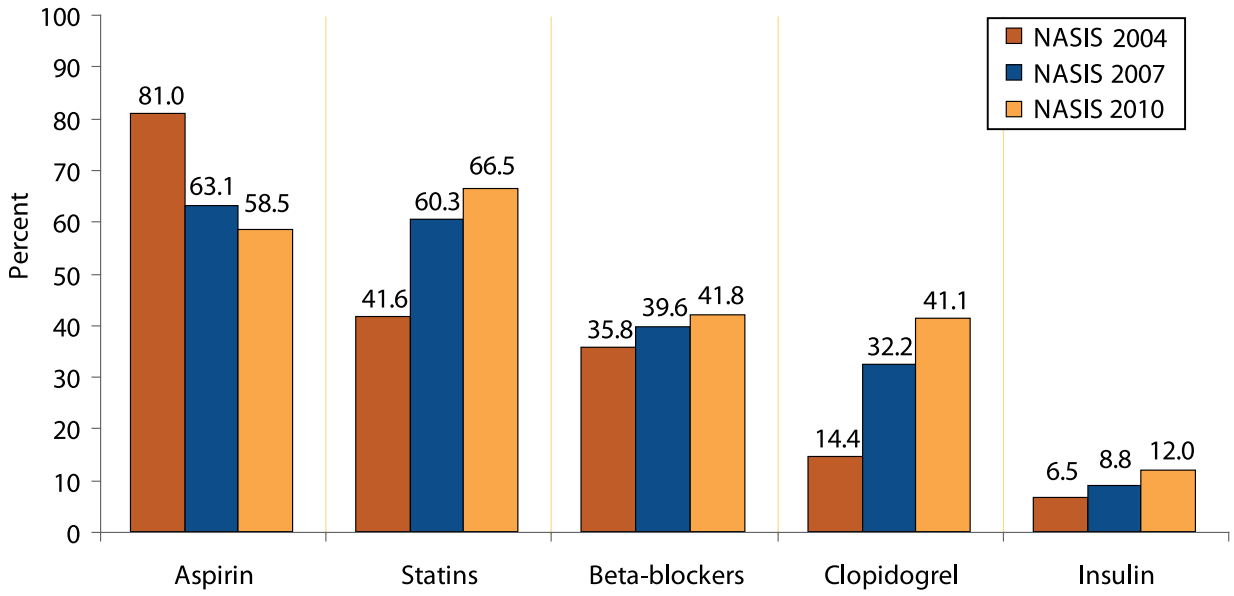
The prevalence of most risk factors was higher among male than female patients.

Trends in management of acute stroke: NASIS national surveys

In a comparison of NASIS national surveys conducted in 2004, 2007 and 2010, the frequency of any vascular imaging increased by approximately 30% between 2007-2010. In particular, the frequency of CT or MR angiography doubled during that period (from 8% to 17% of patients).

The proportion of patients with ischemic events who received clopidogrel and statins at discharge increased steadily between the surveys of 2004-2010. There was a decrease in the use of aspirin, from 81% of patients with ischemic events in 2004 to 59% in 2010 *(Figure 20)*.

Figure 20: Selected medications at discharge among patients with ischemic events, NASIS surveys 2004, 2007 and 2010



Self reported stroke: INHIS-2 National Health Survey 2007-2008

In the INHIS-2 national population survey of 2007-2008, 1.3% of respondents aged 21 and above reported having been diagnosed with stroke by a physician. The rate was 1.6% in men and 0.9% in women.

The rates of self-reported physician-diagnosed stroke were higher among Jews than Arabs, in both men and women. Rates were higher among men than women in all age groups.

Hypertension: Physician-diagnosed hypertension was reported by over 50% of all men and women aged 65 and over.

Self reported stroke: CBS National Health Survey 2009

In the 2009 national health survey carried out by the Central Bureau of Statistics (CBS), stroke was reported for 0.9% of the population. In all age groups, rates of stroke were higher for men than women. Rates increased with age and peaked at age 75 and above.

Mortality

Stroke is the fourth leading cause of death in Israel. In both men and women, age-adjusted rates of mortality due to stroke are higher in the Arab population than in the Jewish population.

Trends

Between 1979-2009, stroke mortality rates declined by approximately 74% in Jewish men, by 70% in Jewish women, by 62% in Arab men and by 72% in Arab women *(Figure 21)*.

International Comparison

In both men and women, stroke mortality rates are lower in Israel than in European Union countries *(Figure 22)*.

Figure 21: Mortality from stroke in Israel, by sex and population group, 1979-2009.

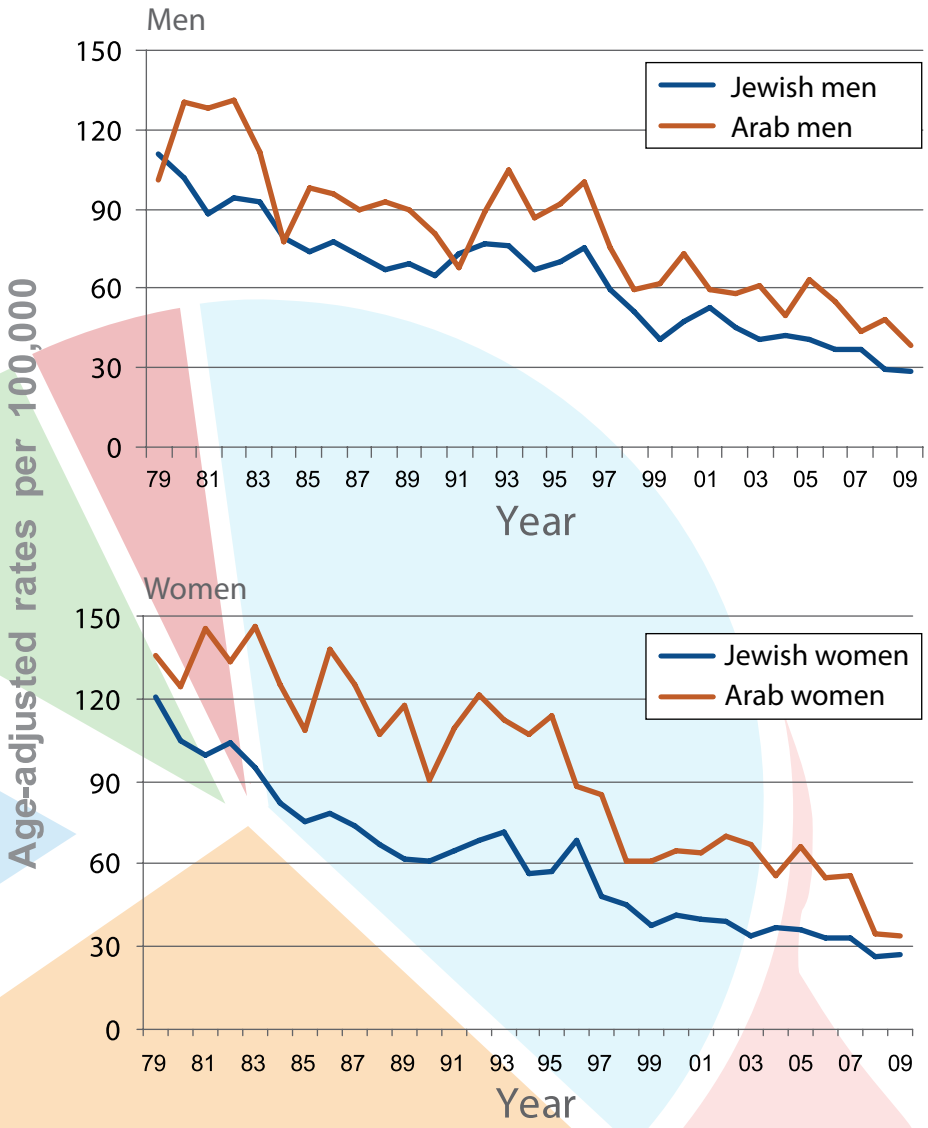
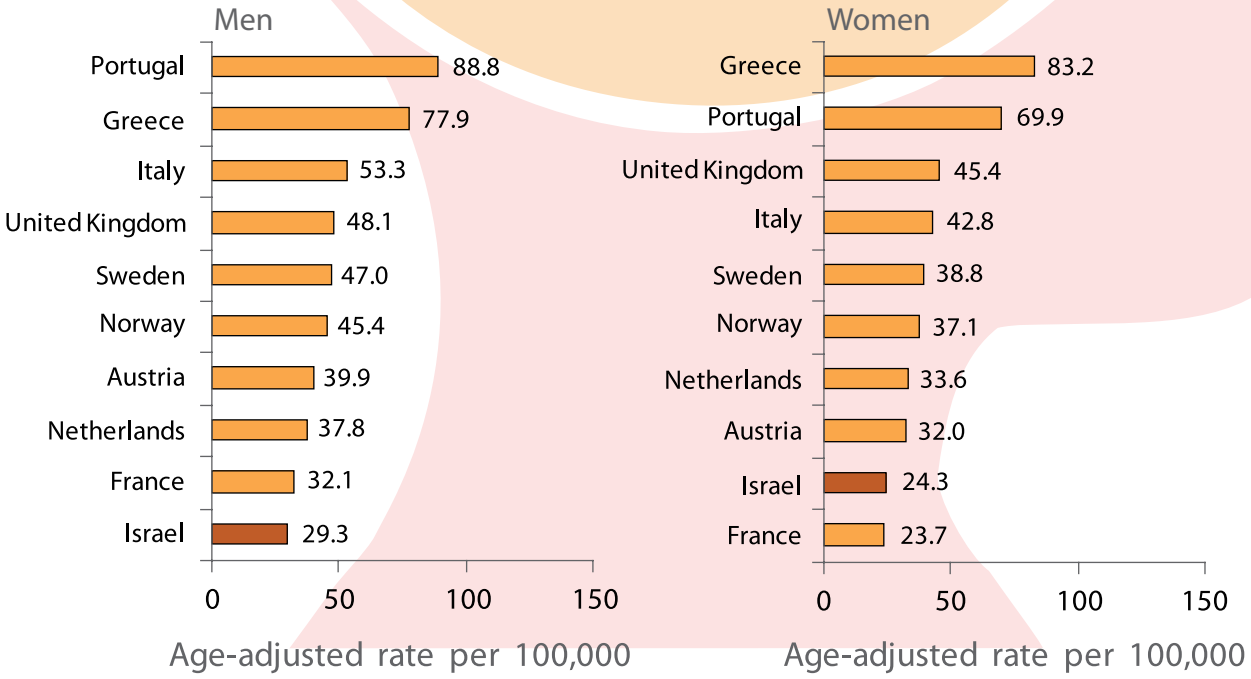


Figure 22: Mortality from stroke in Israel and selected European countries, by sex, 2008.



2.3 Cancer

DATA FROM THE NATIONAL CANCER REGISTRY

Incidence (1)

In 2008, 24,986 new cases of invasive cancer* (all sites) were reported to the Israel National Cancer Registry.

Age adjusted incidence rates per 100,000 were 380.1 in men and 322.8 in women.

The age adjusted incidence rates (per 100,000) of cancer (all sites) were 358.2 in Jewish men, 333.1 in Jewish women, 310.6 in Arab men and 221.8 in Arab women.

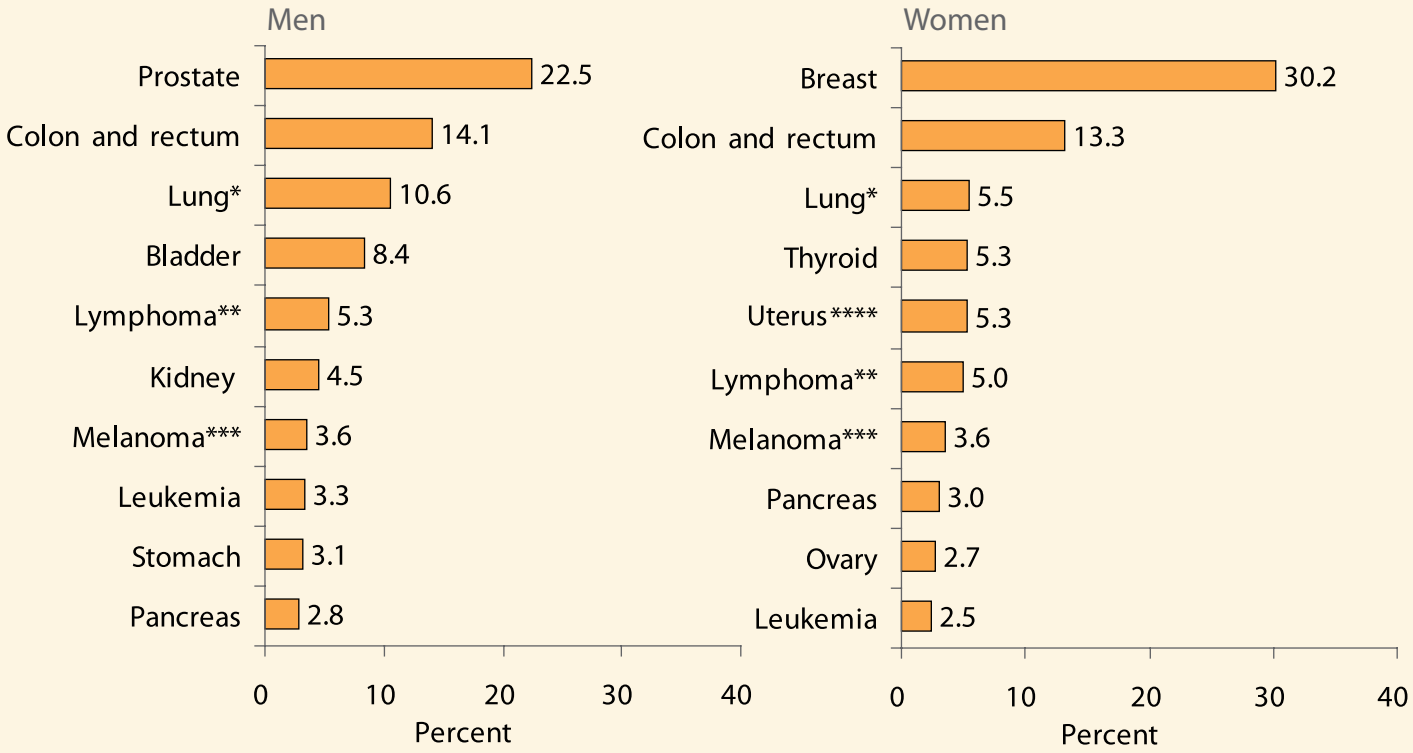
Incidence (2)

The most commonly occurring cancer in men was prostate cancer (22.5% of all new cases), followed by colorectal cancer and lung cancer *(Figure 23)*.

In women, the three most commonly occurring cancers were breast cancer (30.2% of all new cases), colorectal cancer and lung cancer *(Figure 23)*.



Figure 23: Incidence of leading cancer sites in Israel, by sex, 2008: percent of all new cases.



* Trachea, Lung and Bronchus | ** Non-Hodgkin Lymphoma | *** Melanoma of Skin | **** Corpus Uteri and Uterus unspecified

Incidence by age

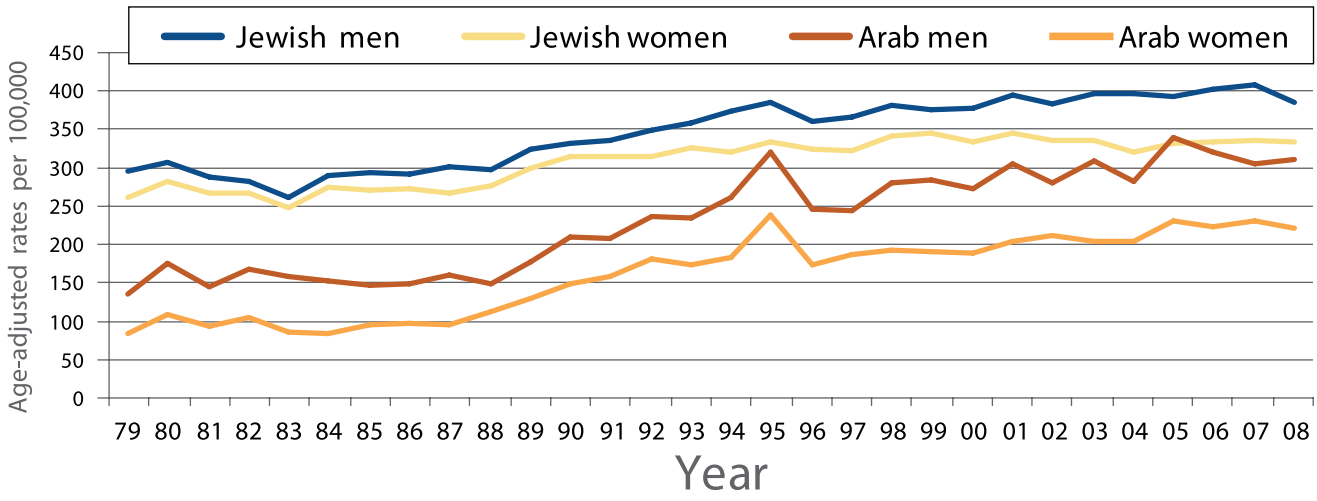
In 2008, the leading cancers among ages 0-19 were leukemia, cancer of brain and central nervous system and non-Hodgkin lymphoma.

Among ages 20-44, the leading cancers were breast cancer, thyroid cancer and non-Hodgkin lymphoma.

Among ages 45-64 and 65 and over, the leading cancers were breast cancer, colorectal cancer and prostate cancer.

Trends in incidence

Figure 24: Incidence of cancer (all sites) in Israel, by sex and population group, 1979-2008



Trends in incidence (all sites)

Over the past 30 years, incidence rates of cancer (all sites) increased by approximately 28% in the Jewish population and 141% in the Arab population.

However, during the past decade (1999-2008) incidence rates stabilized in the Jewish population.

In the Arab population, rates continued to increase, by approximately 10% in men and 20% in women *(Figure 24)*.

MORTALITY

Mortality - all

Cancer is the leading cause of death in Israel, and in 2009 was responsible for 25.7% of all deaths.

In 2009, there were 9,923 deaths from cancer: 4,974 in men and 4,949 in women.

Age-adjusted mortality rates per 100,000 were 150.2 in Jewish men, 119.4 in Jewish women, 144.2 in Arab men and 88.6 in Arab women.

The leading causes of cancer mortality in 2009 were lung cancer (16.2% of all deaths), colorectal cancer (12.9% of all deaths) and breast cancer (9.6% of all deaths).

Mortality - by sex and population group

In 2009, the leading causes of cancer deaths in Jewish men were lung cancer, colorectal cancer and prostate cancer; in Arab men, the leading causes of cancer deaths were lung cancer, colorectal cancer and leukemia.

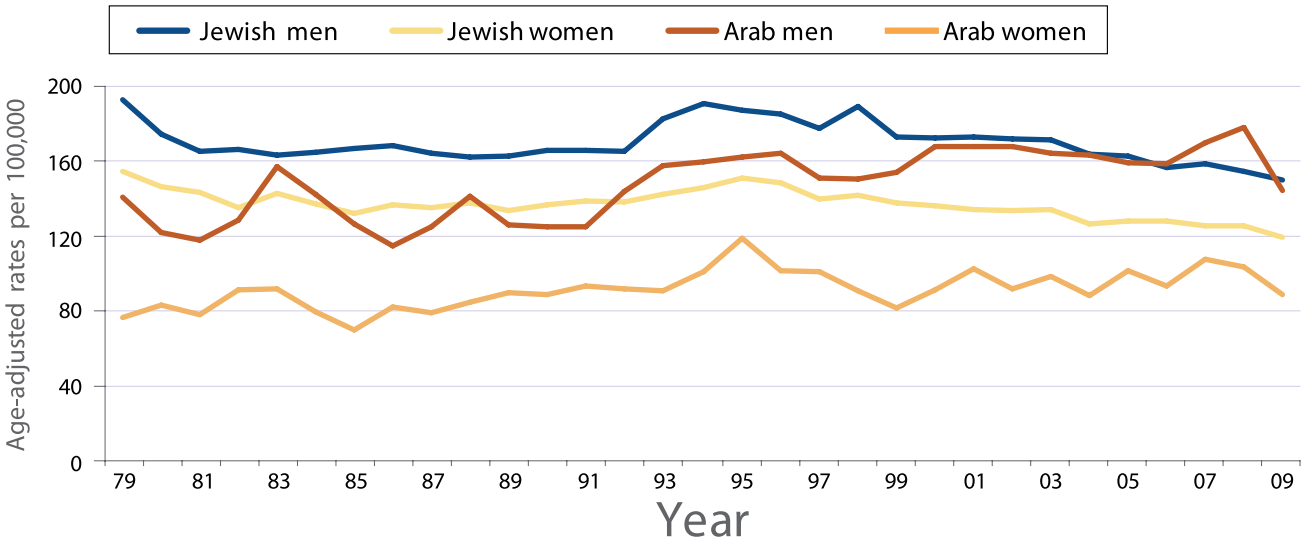
The leading causes of cancer deaths in both Jewish women and Arab women were breast cancer, colorectal cancer and lung cancer.

Trends in cancer mortality (all sites)

During the past 30 years, cancer mortality rates have declined in the Jewish population, and increased in the Arab population.

Between 1979-2009, age-adjusted cancer mortality rates declined by 22.5% in Jewish men and by 22.8% in Jewish women. In the Arab population, age-adjusted cancer mortality rates increased by 2.5% in men and by 15.8% in women *(Figure 25)*.

Figure 25: Mortality from cancer (all sites) in Israel, by sex and population group, 1979-2009

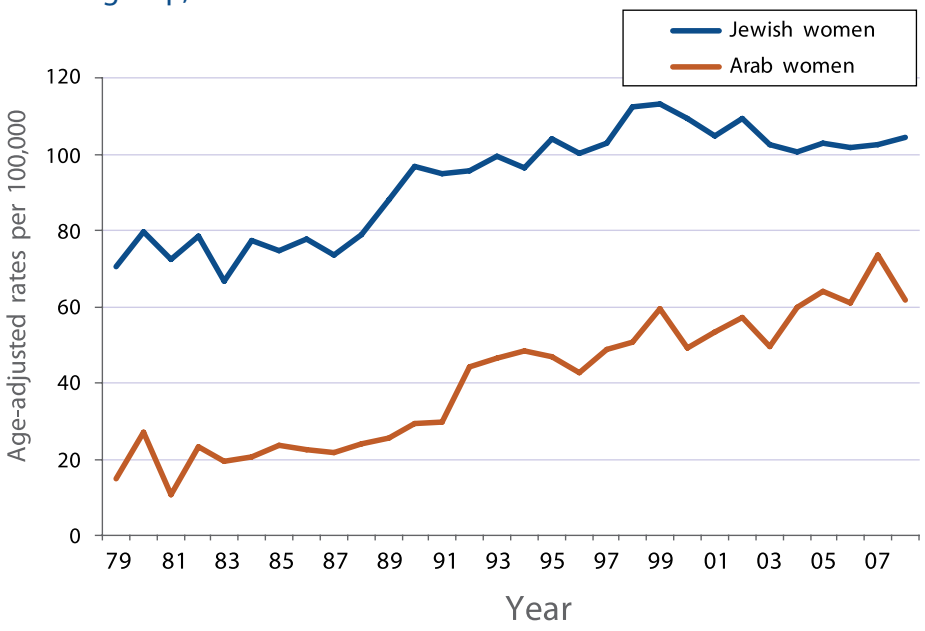


International comparison

Cancer mortality rates in men in Israel are low, relative to men in European Union countries. In Israeli women, cancer mortality rates are similar to the average rate of mortality from cancer in women from European Union countries.

BREAST CANCER

Figure 26: Incidence of breast cancer in Israel, by population group, 1979-2008



Incidence (1)

Breast cancer is the most frequently occurring cancer in women in Israel. In 2008, 3,830 new cases of invasive breast cancer were reported.

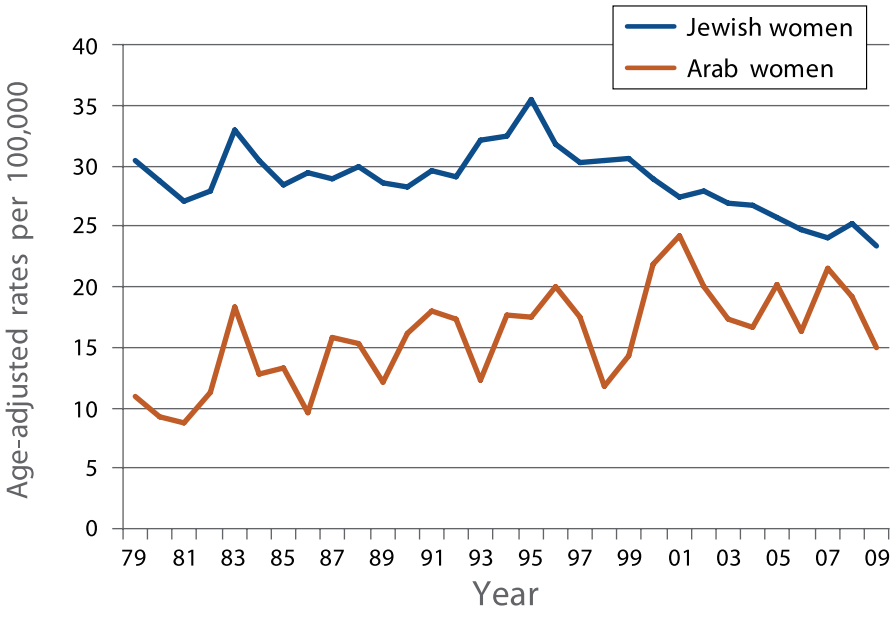




Incidence (2)

Age-adjusted incidence rates are higher in Jewish women than in Arab women.
Over the past thirty years, breast cancer incidence rates have increased by approximately 50% in Jewish women, and by over 300% in Arab women. During the past decade (1999-2008), incidence rates stabilized in Jewish women. In Arab women, incidence rates continued to increase *(Figure 26)*.

Figure 27: Mortality from breast cancer in Israel, by population group, 1979-2009



Mortality

Between 1979-2009, age-adjusted breast cancer mortality rates declined overall by about 23% in Jewish women, and increased overall by about 76% in Arab women. However, in recent years mortality rates have stabilized in Arab women *(Figure 27)*.

COLORECTAL CANCER

Incidence

During the past 30 years, incidence rates of colorectal cancer increased overall by approximately 20% in Jewish men, 10% in Jewish women, 300% in Arab men and 400% in Arab women.
In the Jewish population, incidence rates have stabilized since the mid-1990's. In the Arab population, rates continued to increase steadily in both men and women *(Figure 28)*.

Mortality

In the Jewish population, colorectal cancer mortality rates have declined since the mid-1990's. In the Arab population, mortality rates have continued to increase. However, in Arab women, mortality rates appear to have stabilized in recent years (2006-2009) *(Figure 29)*.

Mortality rates in the Jewish population have been consistently higher in men than women. In the Arab population, mortality rates have been higher in men than women since the mid-1990's *(Figure 29)*.

Figure 28: Incidence of colorectal cancer in Israel, by sex and population group*, 1979-2008

Colorectal cancer is the second most frequently occurring cancer in Israel. In 2008, 3,414 new cases of colorectal cancer were reported: 1,735 in men and 1,679 in women.

*Incidence rates in the Arab population are presented as 3-year moving averages due to small annual numbers of cases.

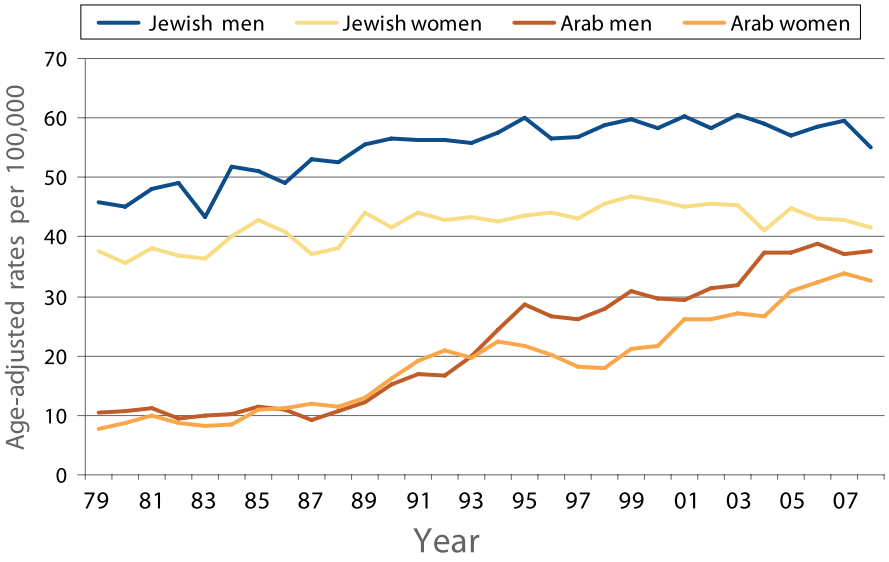
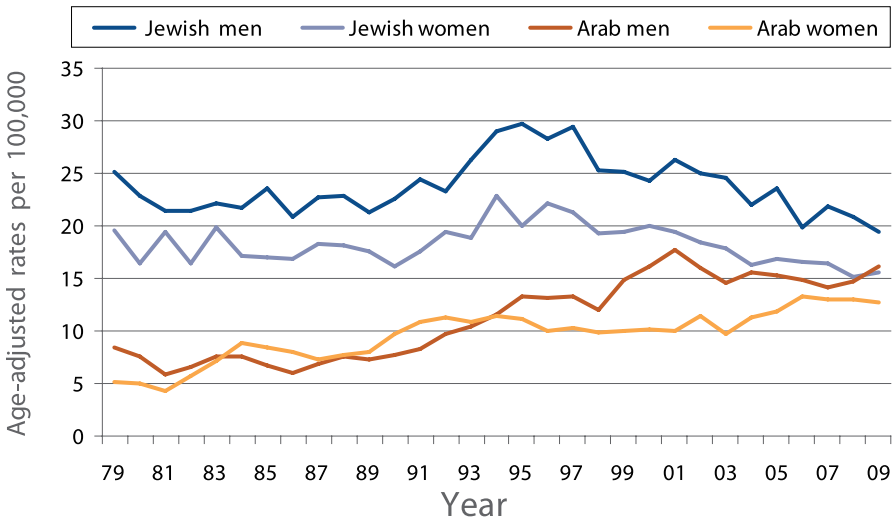


Figure 29: Mortality from colorectal cancer in Israel, by sex and population group*, 1979-2009



*Mortality rates in the Arab population are presented as 3-year moving averages due to small annual numbers of deaths.

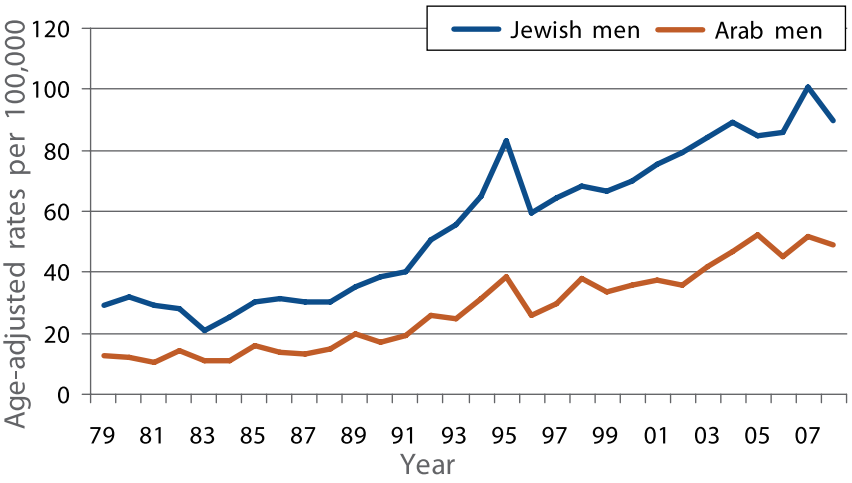
PROSTATE CANCER

Incidence

Prostate cancer is the most frequently occurring cancer among men in Israel. In 2008, 2,765 new cases of prostate cancer were reported.

During the past 30 years, incidence rates of prostate cancer have increased steadily, in both Jewish and Arab men. Rates have been consistently higher in Jewish than in Arab men *(Figure 30)*.

Figure 30: Incidence of prostate cancer in Israel, by population group, 1979-2008

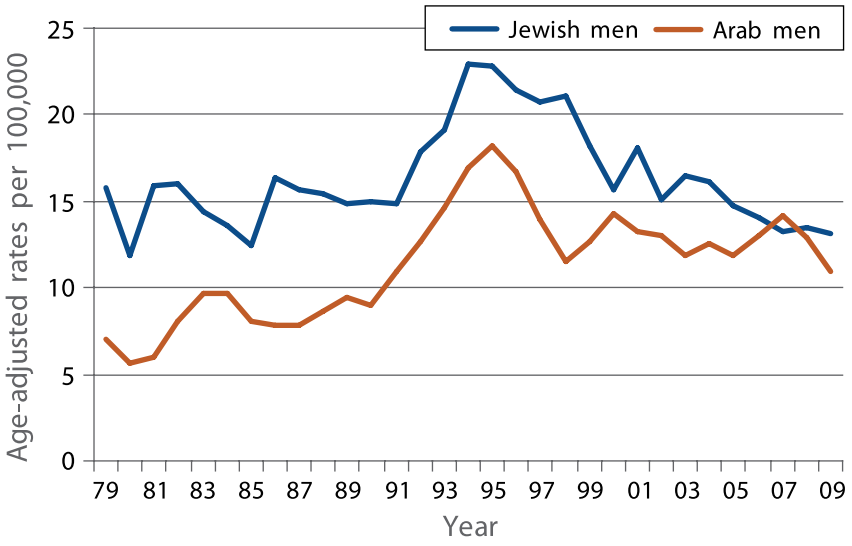




Mortality

In the Jewish population, prostate cancer mortality rates have declined steadily since the mid-1990's. In the Arab population, mortality rates declined from the mid-1990's, increased slightly between 2003-2007, and continued to decline in 2008-2009 *(Figure 31)*.

Figure 31: Mortality from prostate cancer in Israel, by population group*, 1979-2009



*Mortality rates in the Arab population are presented as 3-year moving averages due to small annual numbers of deaths.

LUNG CANCER

Lung cancer is the most frequently occurring cancer among Arab men in Israel, and the third most frequently occurring cancer in Jewish men and in Jewish women. In Arab women, lung cancer was ranked 7th in incidence in 2008.

Incidence and mortality rates are considerably higher in men than in women *(Figures 32, 33)*. The highest incidence and mortality rates are in Arab men, and the lowest, in Arab women.



Incidence in men

During the past 30 years, incidence rates of lung cancer have been stable in Jewish men. In Arab men, rates doubled between 1979-1998, and have been stable during the past decade (1999-2008). Since the mid-1990's, incidence rates have been about 60% higher in Arab men than in Jewish men.

Incidence in women

In Jewish women, the incidence of lung cancer increased steadily during the past 30 years, by approximately 64%. In Arab women, rates were relatively stable between 1979-1989, almost doubled between 1990-1999, and during the past decade the increase in rates has been much more moderate (approximately 13%).
Rates have been consistently higher in Jewish women than Arab women *(Figure 32)*.

Figure 32: Incidence of lung cancer in Israel, by sex and population group, 1979-2008

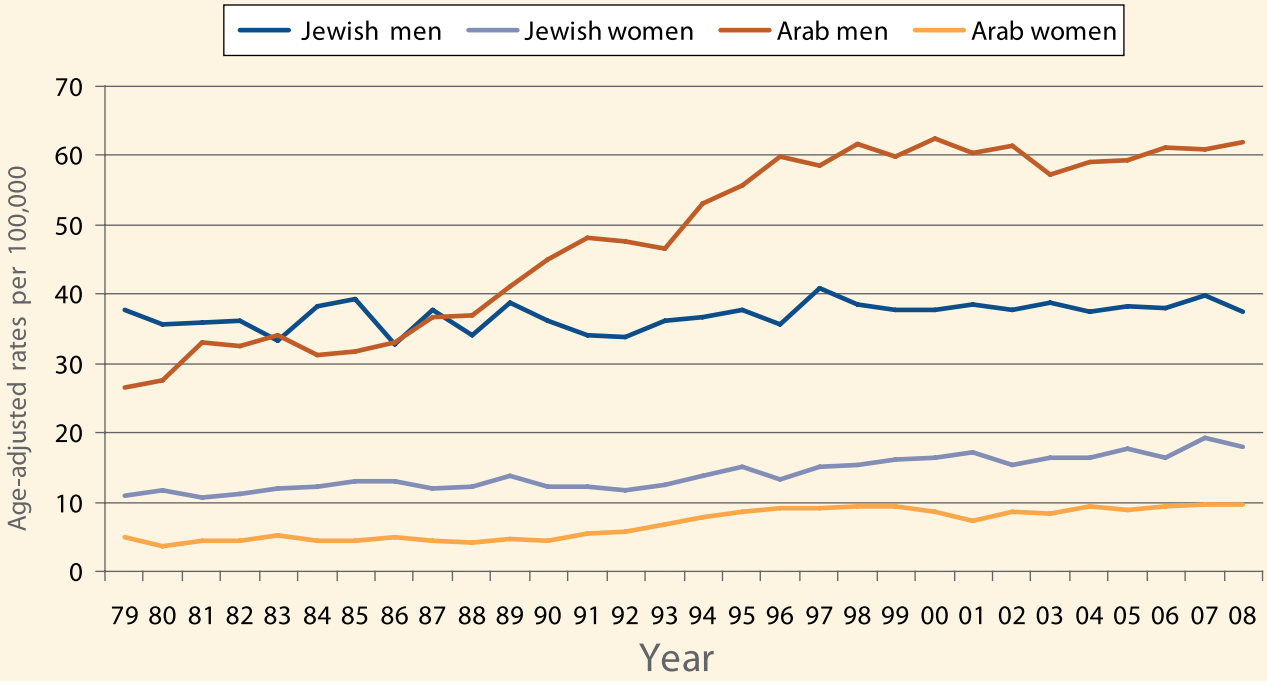
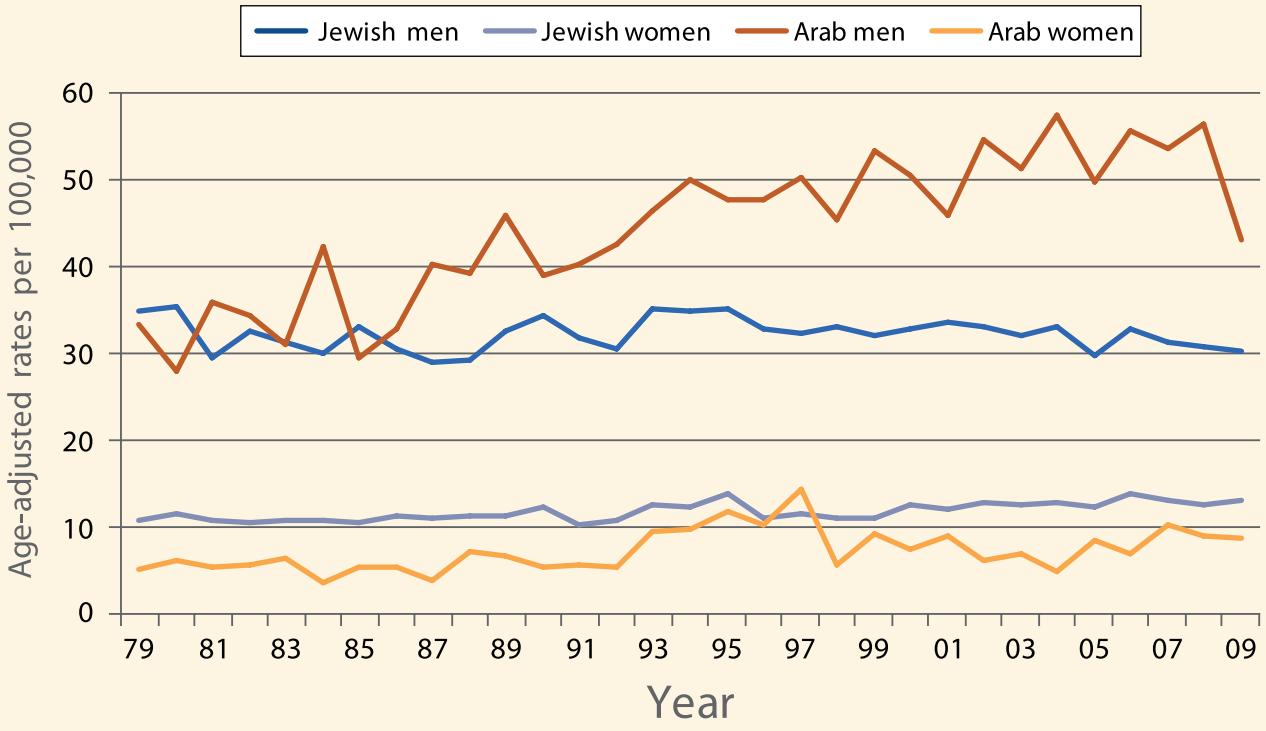


Figure 33: Mortality from lung cancer in Israel, by sex and population group, 1979-2009



Mortality in men

Between 1979-2009, mortality rates from lung cancer among Jewish men declined by 14%. Among Arab men, mortality rates increased by 29% during that period. Since the mid-1980's, lung cancer mortality has been higher among Arab men than Jewish men, and the mortality gap increased until 2008, when the rate in Arab men was 1.8 times higher than in Jewish men.

In 2009, a decline was observed in mortality among Arab men *(Figure 33)*.

Mortality in women

Among both Jewish and Arab women, lung cancer mortality rates have increased during the past 30 years: in Jewish women by 23%, and in Arab women, by 66%. During the past decade (1999-2009), mortality rates increased by 18% in Jewish women, and were relatively stable in Arab women *(Figure 33)*.

2.4 Diabetes



General

The worldwide increase in the incidence of diabetes is evident also in Israel.

Diabetes is today the third leading cause of death in Israel. In 2009, 5.7% of deaths in men and 6.6% of deaths in women were attributed to diabetes.

DIABETES TYPE 1 (AGES 0-17): FINDINGS FROM THE DIABETES REGISTRY



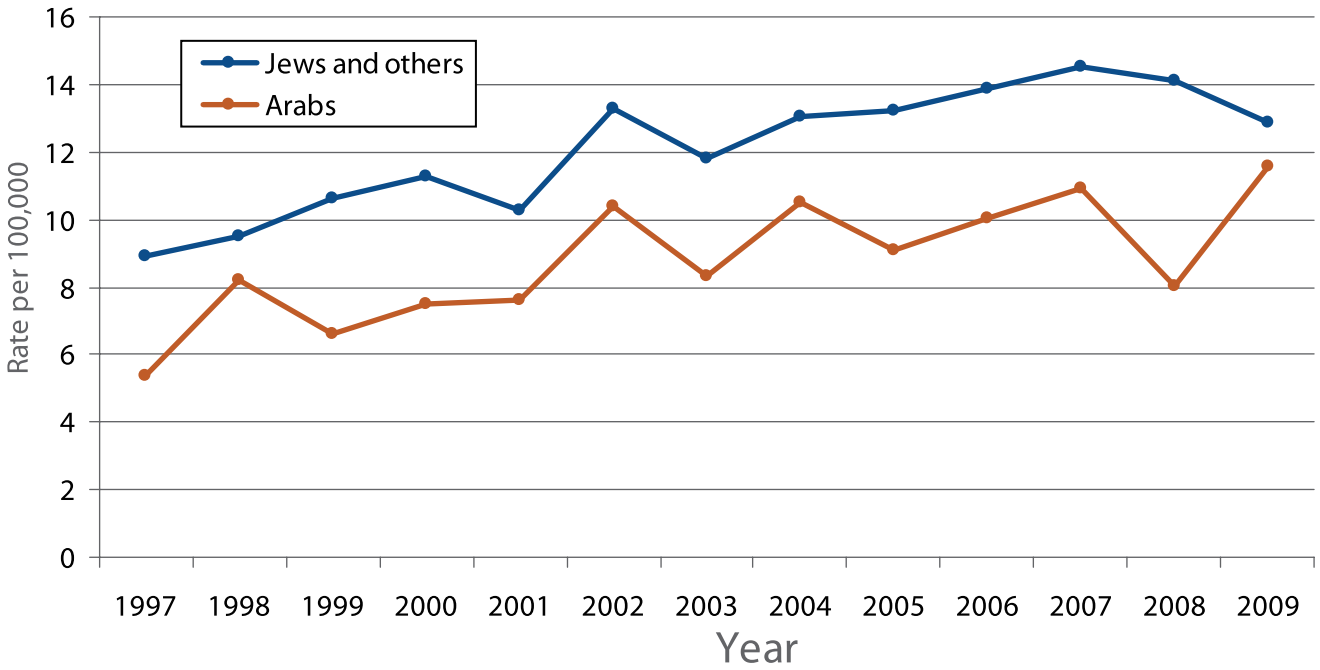
Incidence

In 2008-2009, 652 new cases of type 1 diabetes were reported to the diabetes registry. The incidence rate was 12.5 per 100,000.

The incidence of diabetes was 13.9 per 100,000 in boys and 11 per 100,000 in girls.

The highest incidence rate was among children aged 10-14. The incidence rate in 2009 was 12.9 per 100,000 in the Jewish population and 11.6 per 100,000 in the Arab population.

Figure 34: Incidence of type I diabetes in Israel, in children and youth aged 0-17, by population group, 1997-2009





Trends

Between 1997-2009, the overall incidence rate of type 1 diabetes in Israel increased by over 50%: from 8 to 12.5 per 100,000 *(Figure 34)*.

DIABETES TYPE 2 : FINDINGS FROM THE INHIS-2 NATIONAL HEALTH SURVEY

Prevalence of diabetes type 2

In the INHIS-2 National Health survey of 2007-2008, 8.4% of men and 8.3% of women aged 21 and over reported that they had been diagnosed with diabetes by a physician.

In the 65+ age group, diabetes was reported by 24% of men and 22% of women.

From age 45 and over, the reported prevalence of diabetes was higher in men than in women.

In the Jewish population, the rates of diabetes were 8.4% in men and 8.1% in women. In the Arab population, rates were 8.3% in men and 9.4% in women *(Figure 35)*.

Figure 35: Physician diagnosed diabetes in Israel, by sex and population group. INHIS-2 (2007-2008)

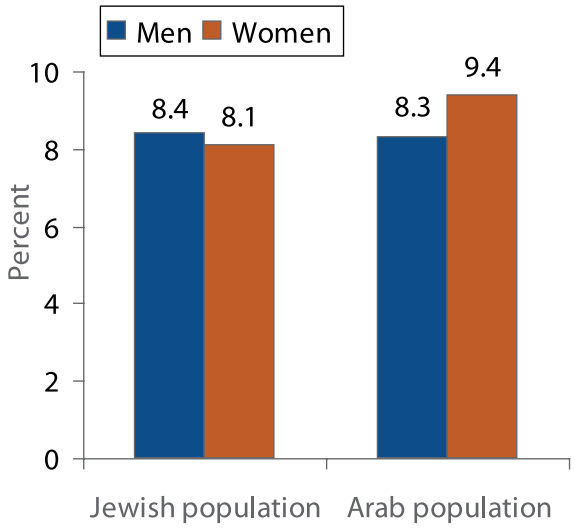
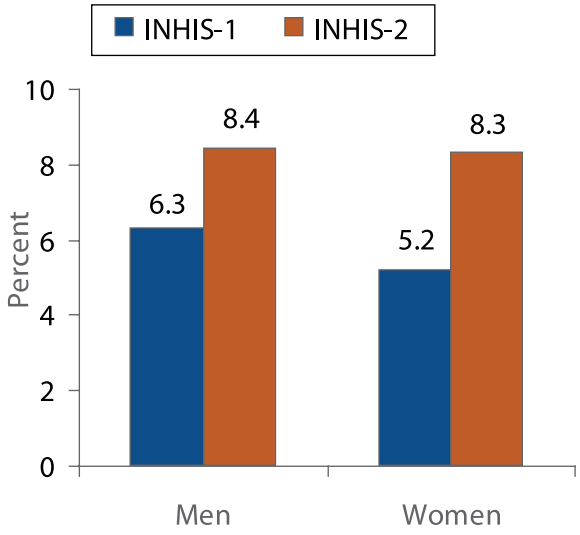


Figure 36: Physician diagnosed diabetes in Israel, by sex. INHIS-1 (2003-2004) and INHIS-2 (2007-2008)



Trends

A comparison of data from the INHIS-1 national survey conducted in 2003-2004 and the INHIS-2 survey (2007-2008) indicated that the reported prevalence of physician-diagnosed diabetes increased by 33.3% in men and 59.6% in women *(Figure 36)*.



Comparison of survey data

Prevalence data from the KAP National Survey, 2008

In the KAP survey of 2008, 8.3% of the study population aged 21 and over reported having been diagnosed with diabetes by a physician: 8.5% of men and 8.0% of women.

Prevalence data from the CBS National Health Survey 2009

In the 2009 national health survey of the Central Bureau of Statistics, physician-diagnosed diabetes was reported for 8.5% of the study population aged 25 and over: 8.4% in men and 8.7% in women.

International Comparison: diabetes prevalence

In an international comparison, the age-adjusted prevalence of diabetes in Israel in 2009 was ranked in an intermediate position with regard to other OECD countries













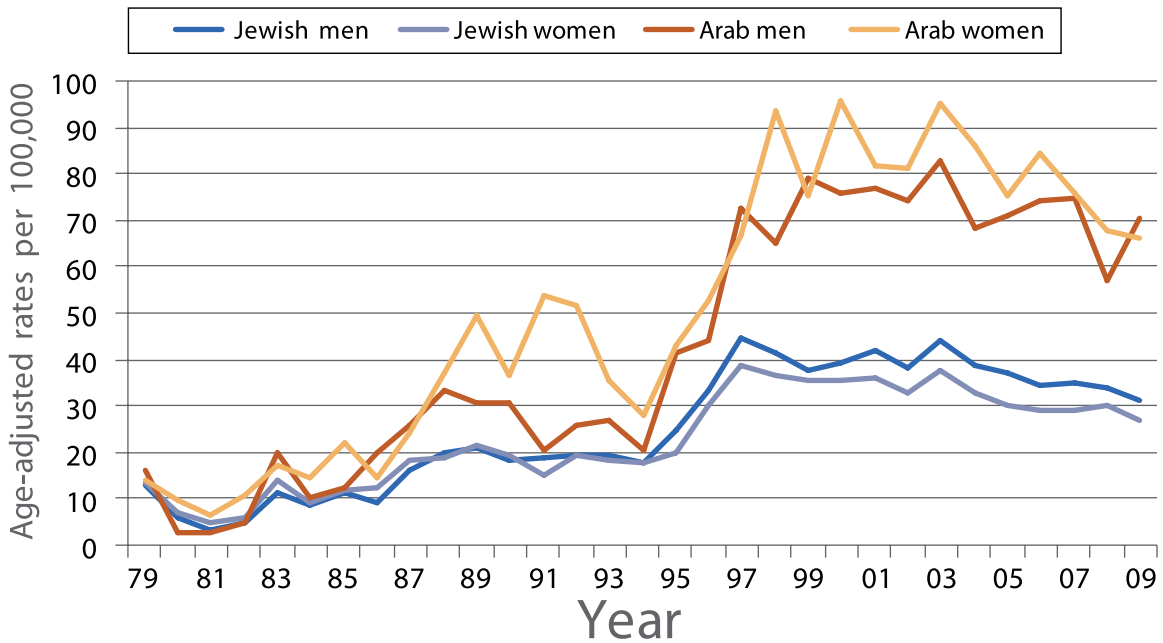
Mortality

In 2009, 2,379 deaths in Israel were attributed to diabetes. Age-adjusted diabetes mortality rates in 2009 were 2.3 times higher in Arab men than in Jewish men and 2.5 times higher in Arab women than in Jewish women.

Trends in Mortality

Between 1989 and 2009, diabetes mortality rates increased overall by approximately 49% in Jewish men and 23% in Jewish women. In the Arab population, diabetes mortality rates increased by approximately 129% in men and 34% in women (Figure 35).
However, in the past five years (2004-2009), a decline in mortality from diabetes has been observed in all groups *(Figure 35)*.

Figure 37: Mortality from diabetes in Israel, by sex and population group, 1979-2009



2.5 Asthma

Prevalence of asthma in adolescents

In a national survey of Jewish 8th grade students carried out in 2008, 7.2% reported current asthma or spastic bronchitis.

In a similar survey carried out in 2009, 7.8% of Arab (non-Bedouin) students, 7.2% of Druze students and 10.7% of Bedouin students reported current asthma or spastic bronchitis.

The prevalence of asthma was higher in boys than girls, in all population groups.

The prevalence of asthma was higher in children from homes where at least one of the parents smoked, than those from homes where neither parent smoked.





Prevalence of asthma in adults

In the INHIS-2 survey of 2007-2008, 5.8% of respondents (aged 21 and above) reported having been diagnosed with asthma by a physician. A similar rate was reported in the KAP survey of 2008 (5.0%).

The rates of reported physician-diagnosed asthma were 5.6% in Jewish men, 6.7% in Jewish women, 3.7% in Arab men and 4.0% in Arab women.

In men, the rate of physician-diagnosed asthma was highest in the youngest age group (21-35 years), and lower in the older age groups. In women, rates of asthma increased with age.

Hospitalizations

According to data from the national hospitalization database, there were 27,682 hospitalizations with a diagnosis of asthma in 2008. Hospitalization rates in males are highest among the youngest (between 0-14 years) and older age groups (45 years and above), and lower in the intermediate ages (between 14-44 years). In females, rates are relatively low among children, and increase with age, reaching a peak at age 75 years and over.

Use of asthma medication

In the INHIS-2 survey of 2007-2008, 1.4% of men (aged 21 and above) and 1.9% of women reported using medication for asthma.



Mortality

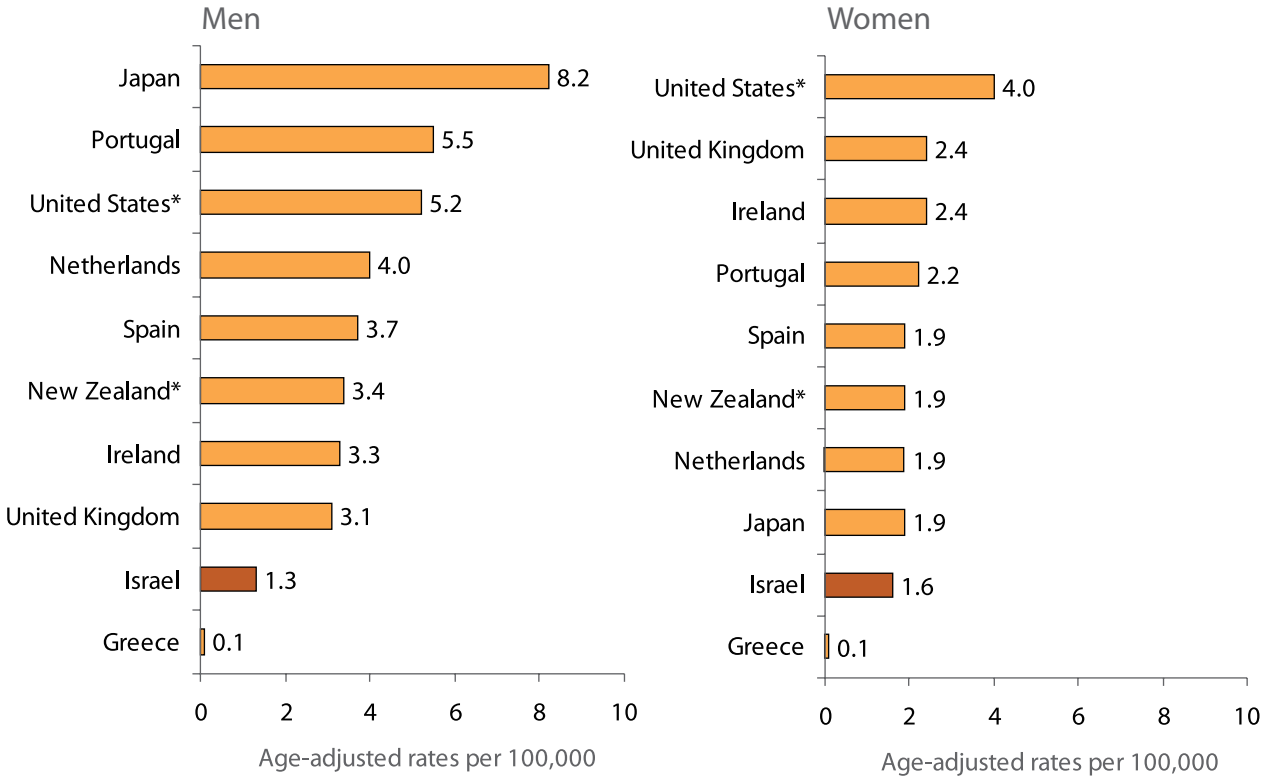
Since the mid-1990's, age-adjusted asthma mortality rates in Israel have declined gradually, in both men and women.

In comparison with European Union countries, asthma mortality rates in men in Israel are ranked relatively low; while in women, rates are in an intermediate position.

In comparison with OECD countries, mortality from bronchitis, asthma and emphysema is relatively low in Israel, in both men and women *(Figure 38)*.

INTERNATIONAL COMPARISON

Figure 38: Mortality from bronchitis, asthma and emphysema in Israel and selected OECD countries, by sex, 2008



* Data are for 2007, the latest year available.

Infectious Diseases

3.1 Infectious Diseases

General trends in incidence

During the past 20 years, a declining trend has been observed in most infectious diseases in Israel. Between 1990-2009, incidence rates of rubella, viral hepatitis A, haemophilus b meningitis, spotted fever and rheumatic fever declined by more than 90%.

However, other diseases have shown a rising trend.

Between 1990-2009, incidence rates of paratyphoid, campylobacteriosis, pertussis, listeria, gonorrhea and chlamdia increased by more than 70%.

Hospitalizations

According to the national hospitalization database, infectious diseases were listed as first cause of hospitalization for 168 of all 10,000 hospitalizations in 2008.

Hospitalization rates are highest among infants (particularly <1 year) and the elderly (particularly 75 years and over).

Hospitalization rates due to all infectious diseases and due to pneumonia and influenza were higher among males than females, in all age groups.







Mortality

In 2009, there were 1,471 deaths due to infectious diseases, comprising 3.8% of all deaths.

There were 897 additional deaths due to pneumonia and influenza, comprising 2.3% of all deaths.

The highest mortality rates from all infectious diseases, from gastrointestinal diseases and from pneumonia and influenza were among ages 75 years and over.

During the past two decades, age-adjusted mortality rates due to infectious diseases were lower in women than in men. Age-adjusted mortality rates due to infectious diseases are higher in Israel than in most of the other OECD countries.



Gastrointestinal diseases

Shigellosis

Following an increase in incidence in the 1970's and 1980's, there was a decline in rates, with outbreaks occurring approximately once every two years. In 2010, the overall incidence rate in the population was 81.9 per 100,000. The highest rates were observed in ages 1-4 years *(Figure 39)*.

Figure 39: Incidence of Shigellosis in Israel, 1951-2010

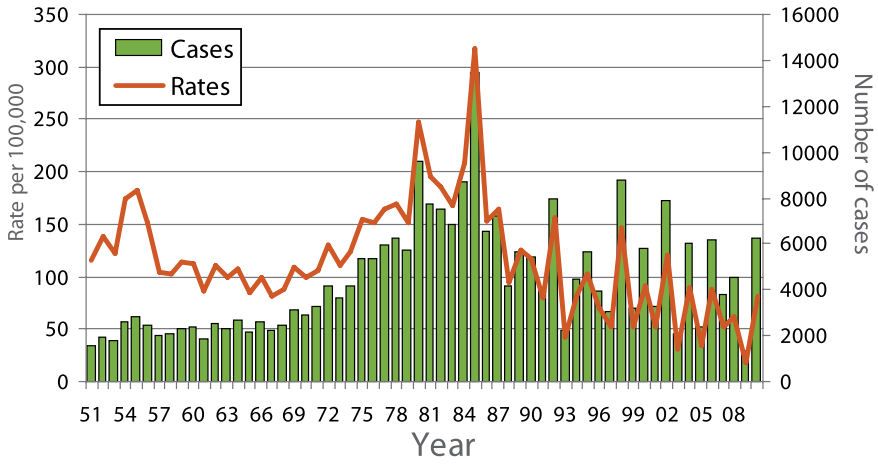
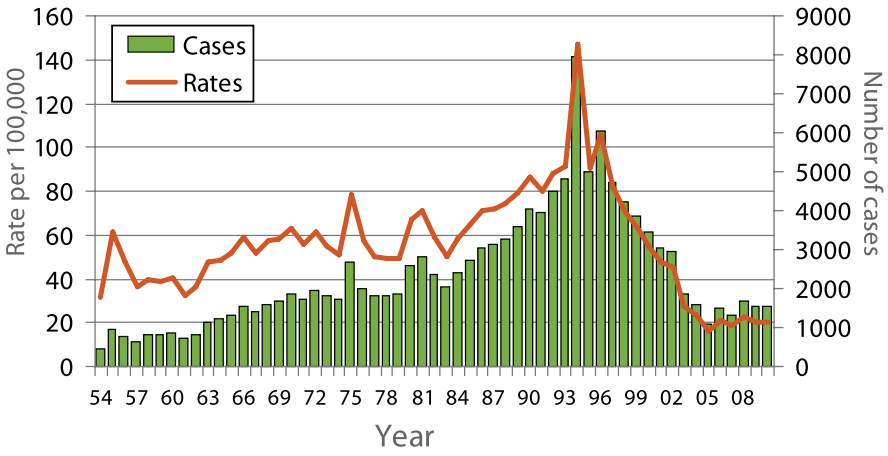


Figure 40: Incidence of Salmonellosis in Israel, 1954-2010



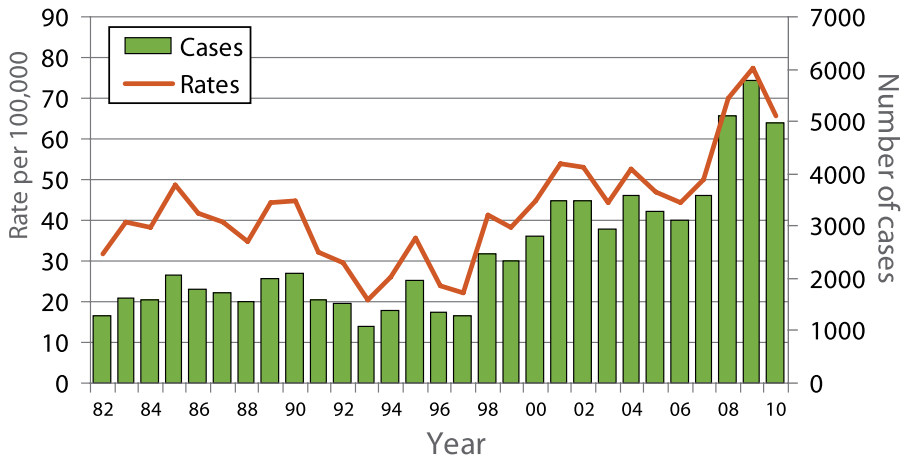
Salmonellosis

From the early 1980's a gradual increase was observed in incidence rates. In 1994 and 1996 two outbreaks occurred. Thereafter, incidence declined, and rates stabilized in the 2000's. In 2010, the overall rate was 20.1 per 100,000 *(Figure 40)*. The highest rates are in infants under 1 year and in children aged 1-4 years.

Campylobacteriosis

Since the end of the 1990's, an increasing trend has been observed in incidence. In 2010, the overall rate was 65.4 per 100,000 *(Figure 41)*.

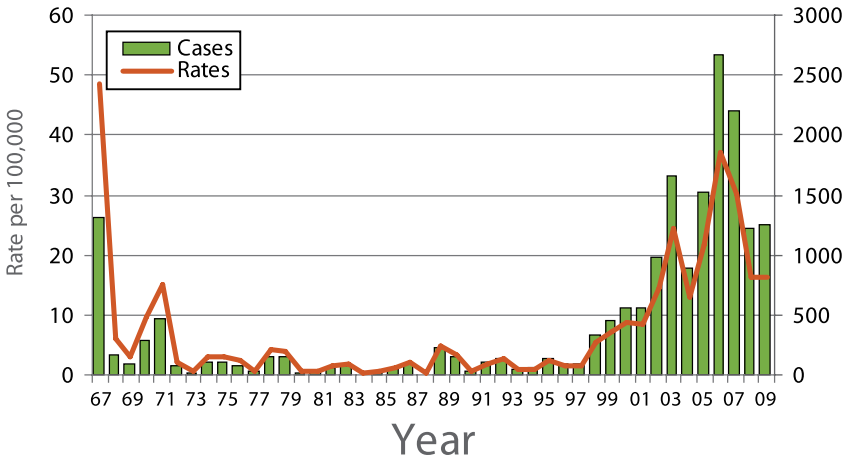
Figure 41: Incidence of Campylobacteriosis in Israel, 1982-2010



Vaccine preventable diseases

Pertussis

Figure 42: Incidence of Pertussis in Israel, 1967-2010

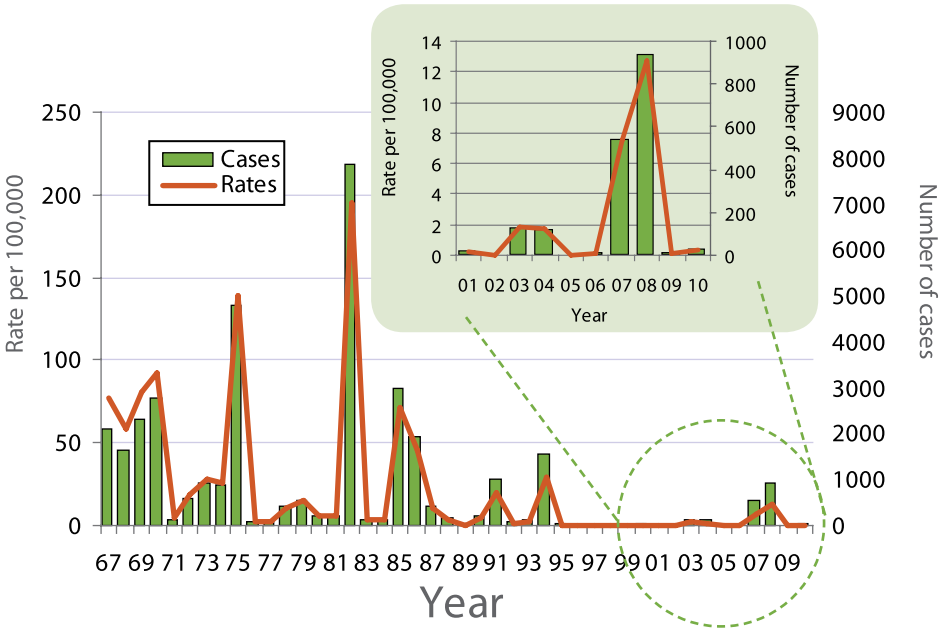


During the 1970's, 80's and 90's, incidence rates were generally low, with local outbreaks. During the 2000's, there was a renewed outbreak of pertussis, which lessened from 2008. In 2010, the overall rate was 16.4 per 100,000 *(Figure 42)*. The highest incidence rates were generally found in infants aged <1 year. During the past decade, a dramatic increase in incidence was also found among ages 10-14.

Measles

From the early 1970's to the mid-90's, incidence rates were generally low, with occasional outbreaks. From 1995, rates were particularly low, with the exception of an outbreak occurring in 2007-2008. In 2010, the overall rate was 0.3 per 100,000 *(Figure 43)*. Until 1995, the highest rates were found among children aged 1-4 years. In 2007-2008, the highest rates were among infants aged less than 1 year.

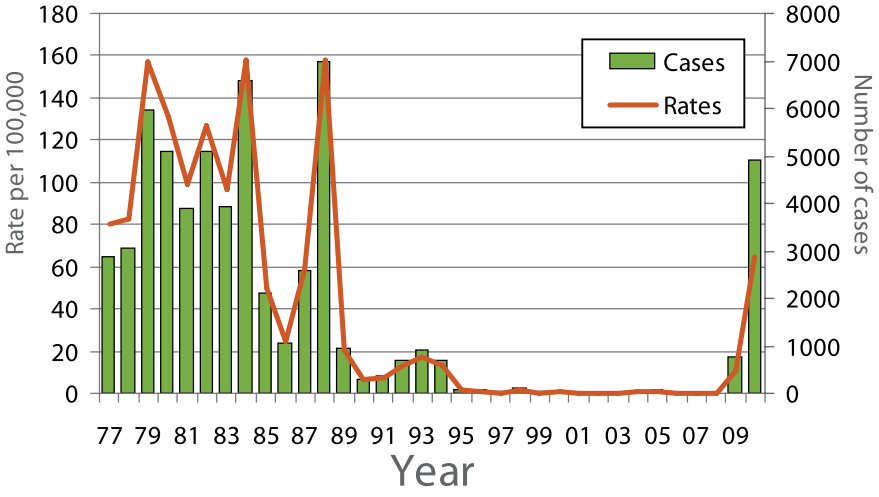
Figure 43: Incidence of Measles in Israel, 1967-2010



Mumps

Since the early 1980's, there has been a declining trend in the incidence of mumps (with the exception of outbreaks). Between 1995-2008, rates were very low. In 2010, following an outbreak that started in 2009, the rate increased to 64.6 per 100,000 *(Figure 44)*. During the 1970's, most mumps morbidity was in infants aged <1 year. In the 2009-2010 outbreak, most morbidity occurred among ages 10-14.

Figure 44: Incidence of Mumps in Israel, 1967-2010



Viral hepatitis A

Following the inclusion of the vaccine in the vaccination schedule in 1999 (for infants born in 1998 and thereafter), incidence rates declined from 35.1 per 100,000 in 1999 to 0.7 per 100,000 in 2010 *(Figure 45)*. In 2004-2006, the highest incidence rates were found among ages 5-9 years. In 2007-2009, the highest rates were found among ages 10-14 years.

Figure 45: Incidence of Viral hepatitis A in Israel, 1992-2010

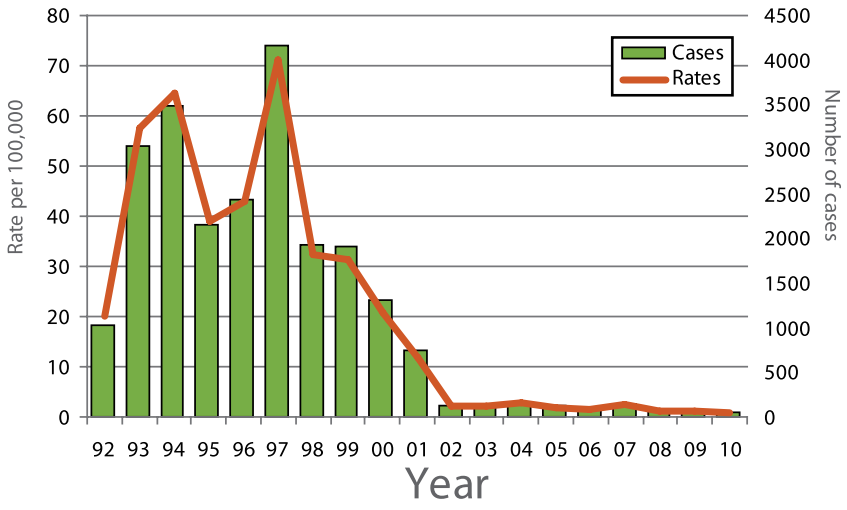
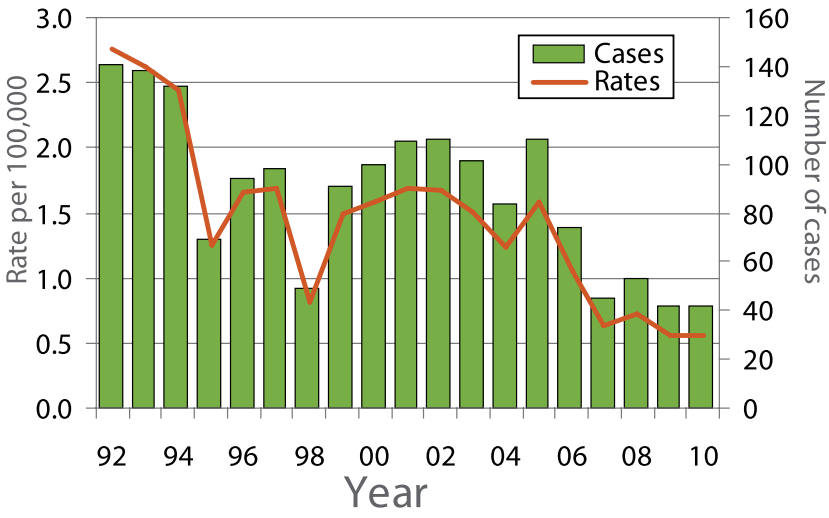


Figure 46: Incidence of Viral hepatitis B in Israel, 1992-2010



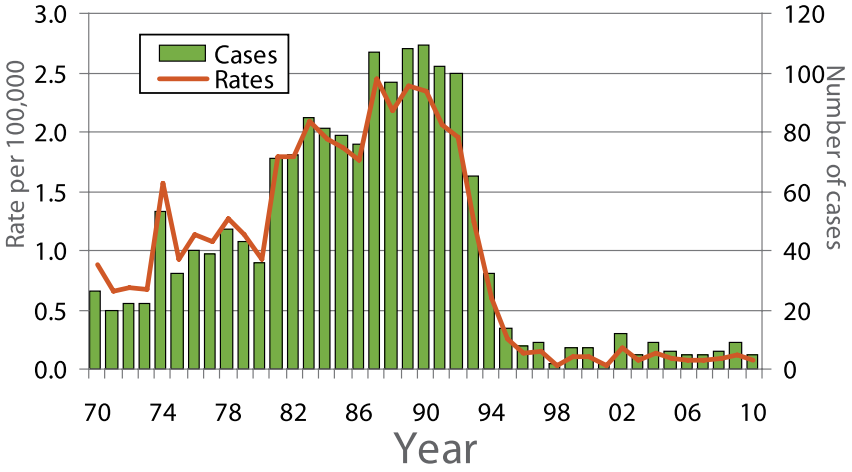
Viral hepatitis B

Since 1992, the vaccine has been included in the routine vaccination schedule for infants. Incidence rates declined from 2.8 per 100,000 in 1992 to 0.6 per 100,000 in 2010 *(Figure 46)*.

Haemophilus b meningitis

Following the inclusion of the vaccine in the vaccination schedule in 1994, incidence rates declined sharply. From 1995 onward, only sporadic cases have occurred. In 2010, the rate was 0.1 per 100,000 *(Figure 47)*.

Figure 47: Incidence of Haemophilus b meningitis in Israel, 1970-2010

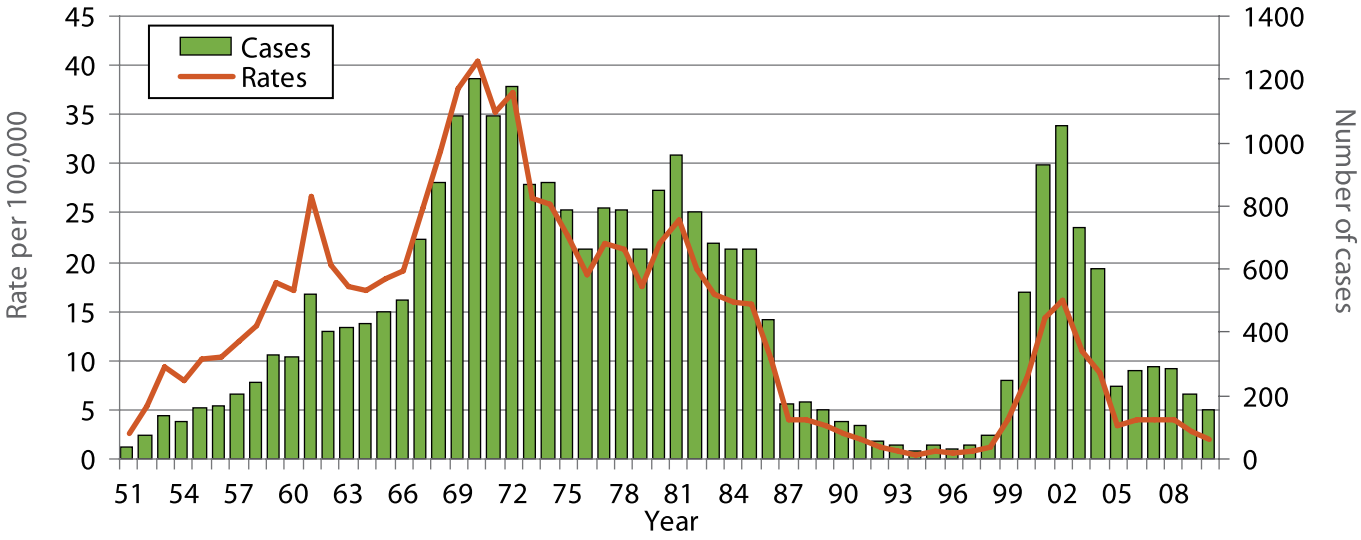


Sexually transmitted diseases

Gonorrhea

Since 1970, the incidence of gonorrhea has declined, and in 1993-1997, rates stabilized and were very low. During 1998-2002, rates increased again, and thereafter declined. In 2010, the incidence rate was 2.1 per 100,000 *(Figure 48)*.

Figure 48: Incidence of Gonorrhea in Israel, 1951-2010



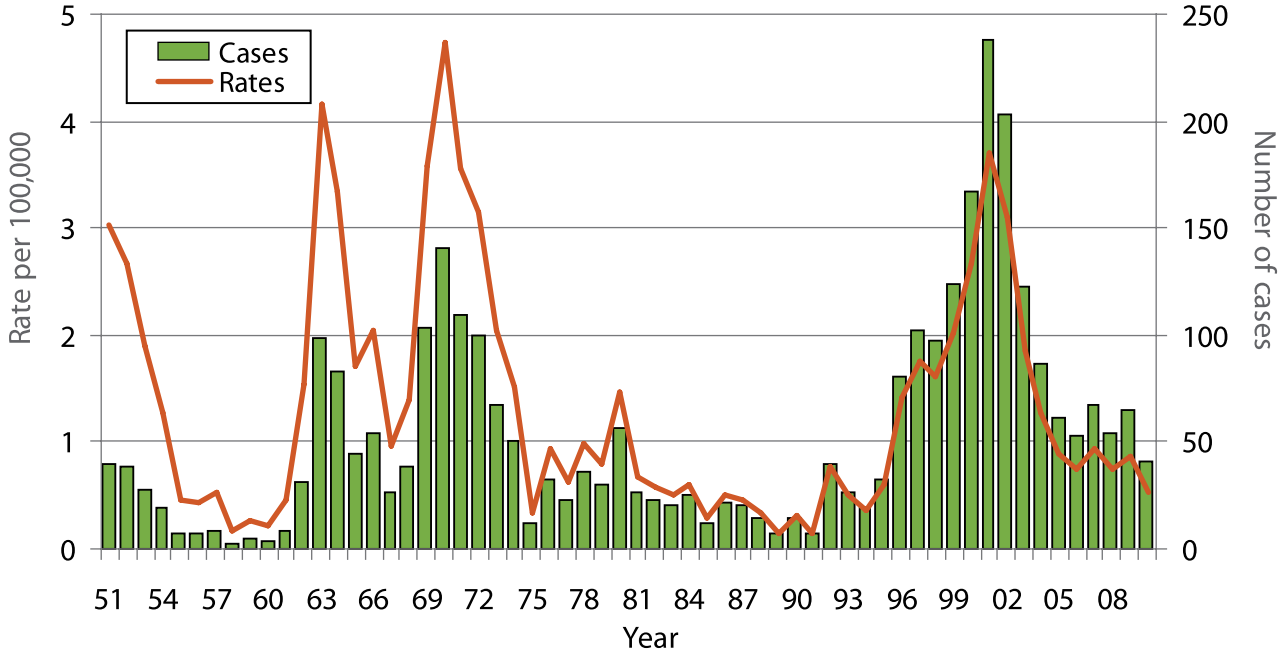




Primary and secondary Syphilis

Between 1981-1995, rates were very low. During 1996-2001 rates increased, and thereafter declined. In 2010, the incidence rate was 0.5 per 100,000 *(Figure 49)*.

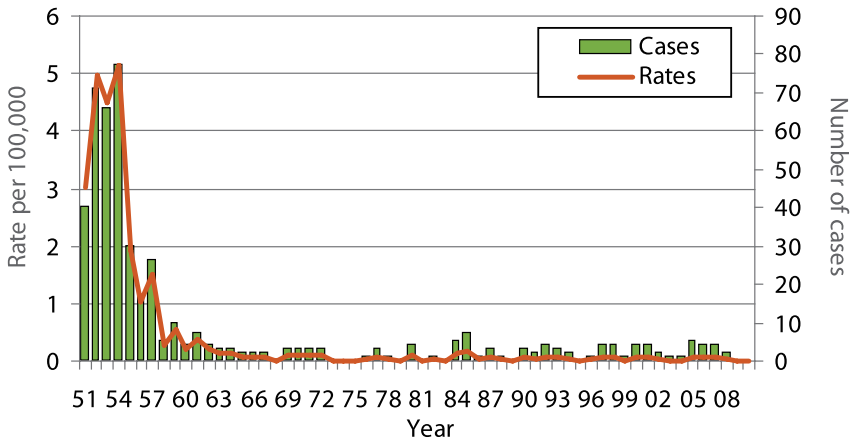
Figure 49: Incidence of primary and secondary Syphilis in Israel, 1951-2010



Congenital Syphilis

Since the early 1960's, rates of congenital syphilis have been very low. In 2009 and 2010, no cases were reported *(Figure 50)*.

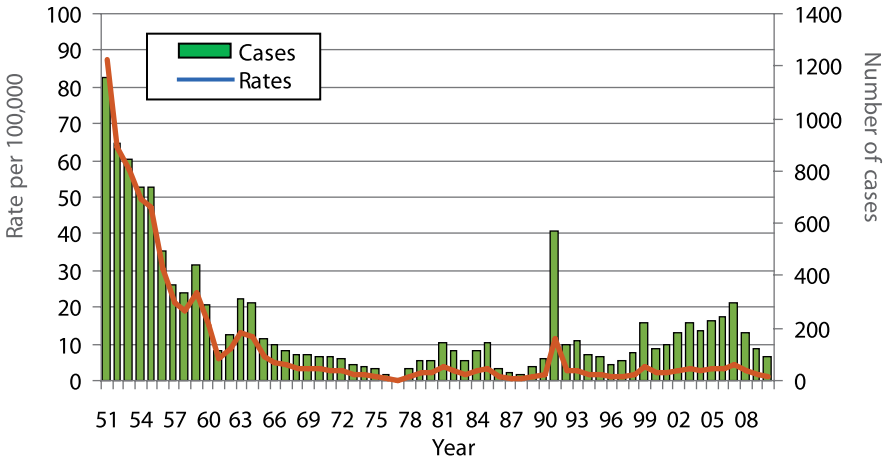
Figure 50: Incidence of congenital Syphilis in Israel, 1951-2010



Late syphilis

In the 1970's, rates were low. In the 1990's, rates increased, following waves of immigration from endemic countries and screening of childbearing women. Since 2008, rates have declined. In 2010, the rate was 1.2 per 100,000 *(Figure 51)*.

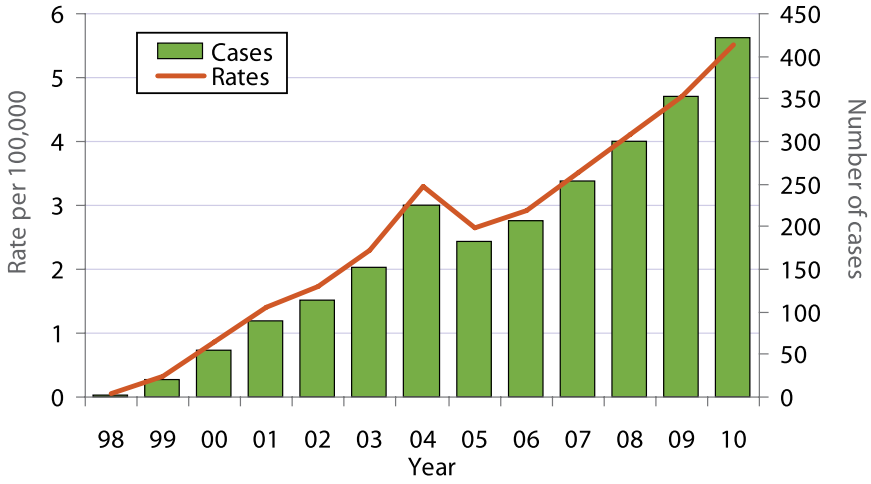
Figure 51: Incidence of late Syphilis in Israel, 1951-2010



Chlamidia trachomatis in genital tract

Since 1998 an increasing trend has been observed in the number of cases reported. In 2010, the rate was 5.5 per 100,000 *(Figure 52)*.

Figure 52: Incidence of Chlamidia trachomatis in genital tract in Israel,1998-2010



Other diseases

Tuberculosis

From the beginning of the 1950's there has been a steadily decreasing trend in incidence, from 106.2 per 100,000 in 1952 to 4.8 per 100,000 in 1990. In 1985 and 1991 there were peaks in incidence, following waves of immigration from endemic countries. During the 1990's rates increased, and in recent years they have declined. In 2008, the rate was 5 per 100,000 *(Figure 54)*.

Figure 54: Incidence of Tuberculosis in Israel, 1952-2010

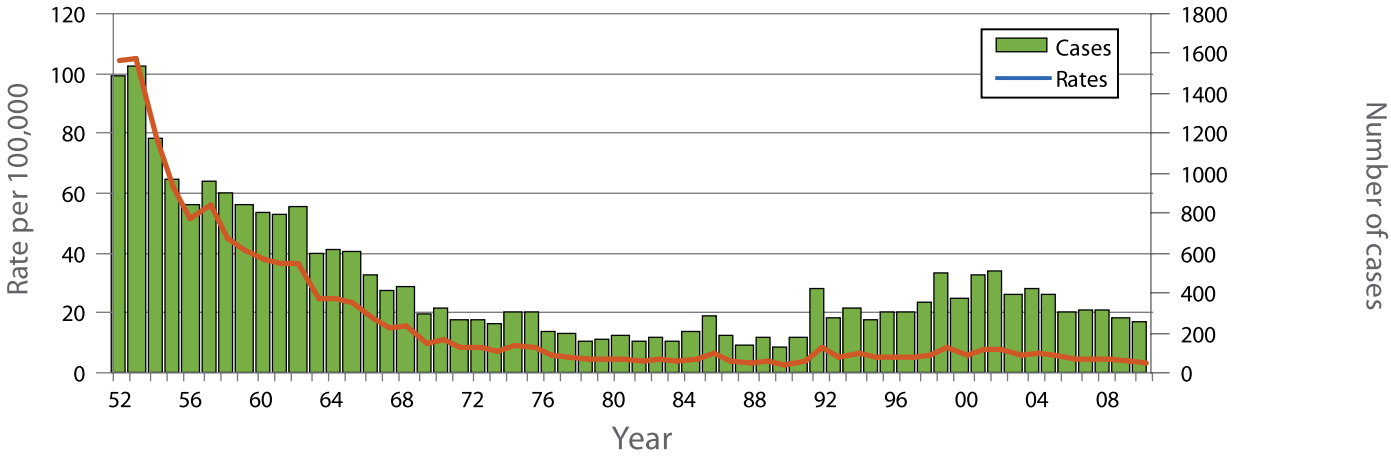
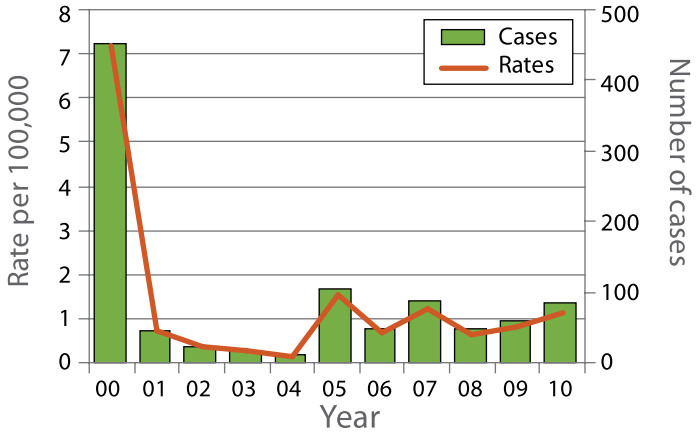


Figure 53: Incidence of West Nile fever in Israel, 2000-2010



West Nile fever

Following an outbreak in 2000, West Nile fever was added to the list of notifiable infectious diseases, and a rate of 6.8 per 100,000 was reported. During 2008-2010 incidence rates were consistently low (0.9 per 100,000) *(Figure 53)*.

International comparison

Rates of rubella, vital hepatitis A, gonorrhea, mumps and tuberculosis were lower in 2008 than the average rate in European Union countries. Rates of measles, syphilis and pertussis were higher in Israel than the average in the European Union countries.



3.2 Influenza surveillance in Israel

Surveillance of seasonal influenza by the ICDC

Influenza surveillance is carried out by the Israel Center for Disease Control (ICDC), and includes both laboratory and clinical surveillance.

Laboratory surveillance is based on data from a network of 23 sentinel community clinics. Pharyngeal swabs are taken from patients with influenza-like illness, which are then tested for presence of influenza viruses.

Clinical surveillance is based on patient visits to patient visits to community clinics and to hospital emergency rooms due to influenza-like illness (ILI), acute upper respiratory infection and pneumonia. In addition, data are collected on hospital bed occupancy in pediatric and adult wards, artificial ventilation rates and hospital mortality.





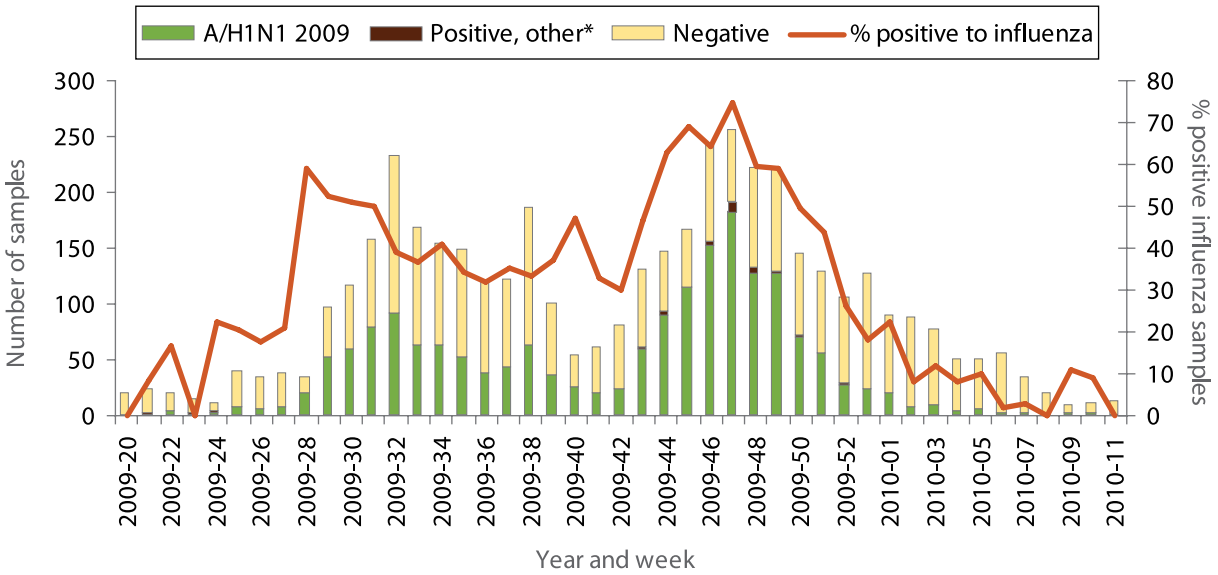
Surveillance of the A/H1N1 2009 influenza pandemic by the ICDC (1)

(1) The first cases in Israel were identified in Israel at the end of April, 2009. In the sentinel clinic network run by the ICDC, the first cases were identified at the end of May, 2009.

(2) Rates of visits to community physicians due to influenza-like illness (ILI) began to increase from the beginning of July, 2009.

(3) Based on physician visits and on laboratory surveillance, three peaks of morbidity were observed: at the beginning of August, mid-September and in the second half of November (the largest wave) *(Figure 55)*. The influenza pandemic in Israel lasted 36 weeks: from mid-June, 2009 to late February, 2010.

Figure 55: Positive influenza samples as percentage of total samples collected by sentinel network, 2009-2010



* Positive, other - A/H3N2, A/Unsubtyped, and influenza B

Surveillance of the A/H1N1 2009 influenza pandemic by the ICDC (2)

During the entire period of the pandemic, the highest morbidity rates were among ages 2-18 years.

From the week ending 25.7.2009 (week 30) until the end of February, 2010, the number of visits to adult emergency rooms due to pneumonia was higher than the multi-year average.

During the same period, a number of peaks were observed where the number of visits of children to pediatric emergence rooms was higher than the multi-year average.

The proportion of deaths due to pneumonia was according to seasonal predictions.





National monitoring of A/H1N1 2009 influenza pandemic: Division of Epidemiology

On 28.4.2009, pandemic influenza A/H1N1 2009 was added to the list of notifiable infectious diseases.

During the pandemic, the Division of Epidemiology coordinated the reporting of laboratory-verified cases.

In Israel, 10,311 cases of laboratory-verified cases were reported.

50.8% of the patients were male and 49.2% female. Most morbidity occurred in the younger age groups.

There were 96 deaths in patients diagnosed with pandemic influenza. The majority of deaths (over 70%) were among patients aged 19-65 years.





3.3 HIV/AIDS

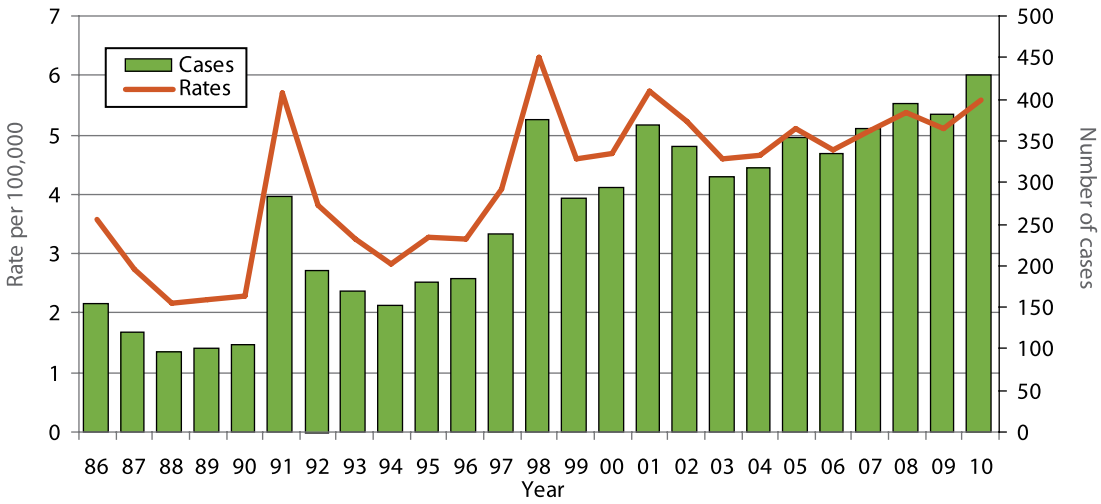
Morbidity

(1) At the end of 2010, there were 5,249 officially registered persons living with HIV/AIDS in Israel.
Based on epidemiological trends, the health ministry estimates that at that time there were 7,744 persons in Israel living with the HIV virus.

(2) Between 1986-2010, the incidence of AIDS increased by approximately 70%, with 2 large peaks occurring in 1991 and 1998 and a smaller peak in 2001. Thereafter, incidence rates stabilized *(Figure 56)*.

(3) Between 2006-2010, an annual average of 382 new cases of HIV/AIDS were reported.
In 2010, 430 new cases of HIV/AIDS were diagnosed.
The incidence rate of HIV/AIDS in 2010 was 55.8 per million population.

Figure 56: HIV/AIDS incidence in Israel, 1986-2010





Mortality

Between 1998-2009, there was an average of 49 deaths per year of persons with HIV/AIDS. The average age-adjusted mortality rate was 0.7 per 100,000.

In 2009, there were 39 deaths of persons with HIV/AIDS. The age-adjusted mortality rate was 0.5 per 100,000.

Mortality rates are higher among men than women. During 1998-2009, the average mortality rates were 1.0 per 100,000 among men and 0.4 per 100,000 among women.

Prevalence of HIV/AIDS by mode of transmission

In 2010, there were 5,249 registered individuals living with HIV/AIDS in Israel. The official estimate for the actual number of persons living with the virus is approximately 50% higher.

Among men, 40% of persons with the virus were heterosexual men, about 36% were men who have sex with men (MSM) and 17% were injecting drug users.

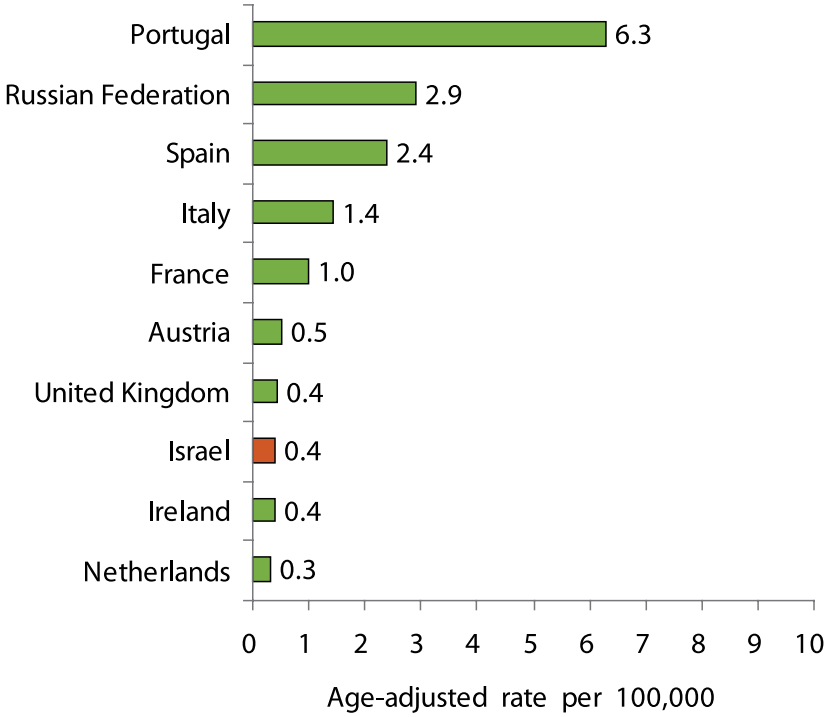
Among women, the majority of persons with the virus (82%) were heterosexual women; approximately 80% of this group were immigrants from countries with a generalized HIV epidemic.



International comparison

Mortality rates from HIV/AIDS are lower in Israel than in most European countries *(Figure 57)*.

Figure 57: Mortality from HIV/AIDS in Israel and selected European Union countries, 2008



Risk Factors for Chronic Diseases

4.1 Hypertension

General

Hypertension is one of the main risk factors for morbidity and mortality from cardiovascular diseases. Preventive measures include lifestyle factors such as healthy nutrition, exercise and not smoking.



FINDINGS FROM THE INHIS-2 NATIONAL HEALTH SURVEY 2007-2008

Hypertension in the population

In the INHIS-2 national health survey conducted by the Israel Center for Disease Control in 2007-2008, 19.6% of the respondents (ages 21 and over) reported that they had been diagnosed with hypertension by a physician. This is similar to the rate reported in the KAP survey in 2008.



Sex and population group

18.4% of men and 20.6% of women reported that they had been diagnosed with hypertension by a physician.

In the Jewish population, 19.5% of men and 21.4% of women reported physician-diagnosed hypertension.

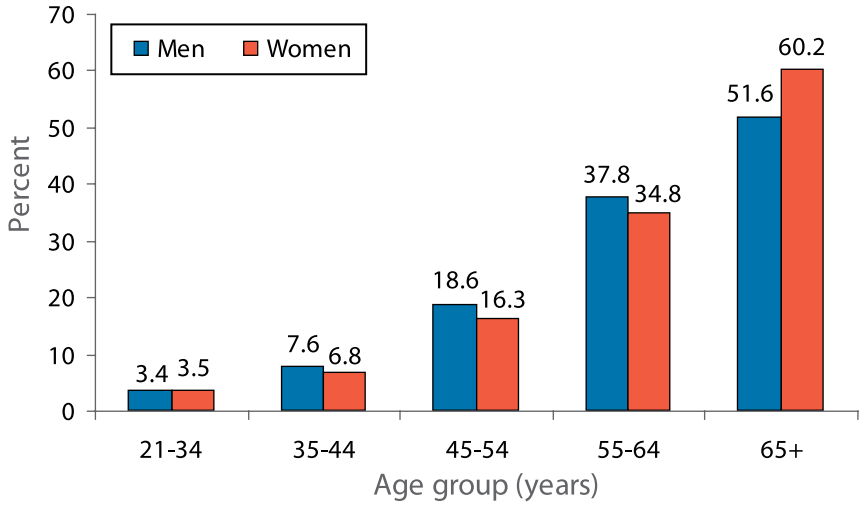
In the Arab population, 13.0% of men and 16.5% of women reported physician-diagnosed hypertension.



Age

Among both men and women, the prevalence of hypertension increased steadily with age.
Rates of hypertension in people under age 65 were generally somewhat higher in men. Among those aged 65 and over, rates of hypertension were higher in women *(Figure 58)*.

Figure 58: Physician-diagnosed hypertension in Israel, by sex and age, 2007-2008



4.2 High blood lipids

FINDINGS FROM THE INHIS-2 NATIONAL HEALTH SURVEY 2007-2008

High cholesterol and triglycerides in the population

In the INHIS-2 national health survey conducted in 2007-2008, 21.8% of respondents reported that they had been diagnosed by a physician as having high blood cholesterol, and 10% reported having been diagnosed with high triglycerides.



Sex and population group

20.4% of men and 23.1% of women reported that they had been diagnosed as having high blood cholesterol.

10.5% of men and 9.4% of women reported that they had been diagnosed as having high triglycerides.

Rates of reported high blood cholesterol were higher in the Jewish population (21.4% in men and 24.8% in women) than in the Arab population (15.6% in men and 13.4% in women).

Rates of reported high triglycerides in the Arab population were 13.3% in men and 10.0% in women. In the Jewish population rates were 10.0% in men and 9.3% women.

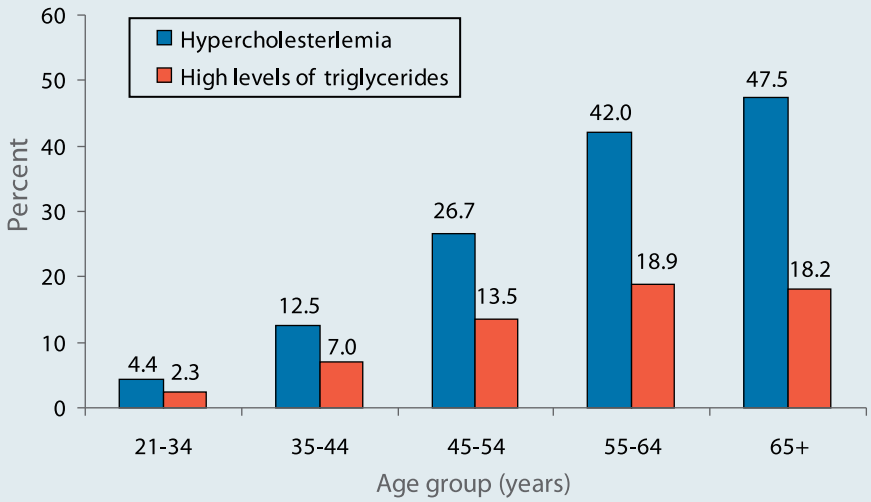
Age

Rates of high cholesterol and triglycerides increased steadily with age.

47.5% of respondents aged 65 and over reported having high cholesterol.

Among respondents aged 55-64 years and 65 years and over, rates of high triglycerides were 18.9% and 18.2%, respectively *(Figure 59)*.

Figure 59: Physician-diagnosed high blood lipids in Israel, by age, 2007-2008





4.3 Overweight and Obesity

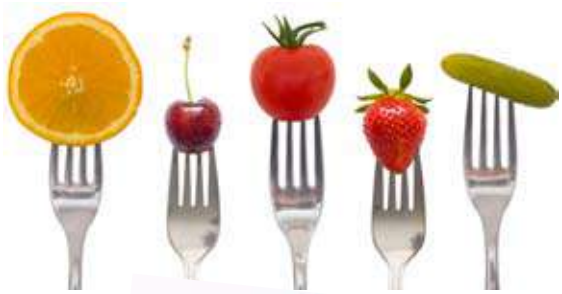
General

Overweight and obesity are major risk factors for a number of chronic diseases, including diabetes, cardiovascular diseases and cancer.





FINDINGS FROM THE INHIS-2 NATIONAL HEALTH SURVEY 2007-2008





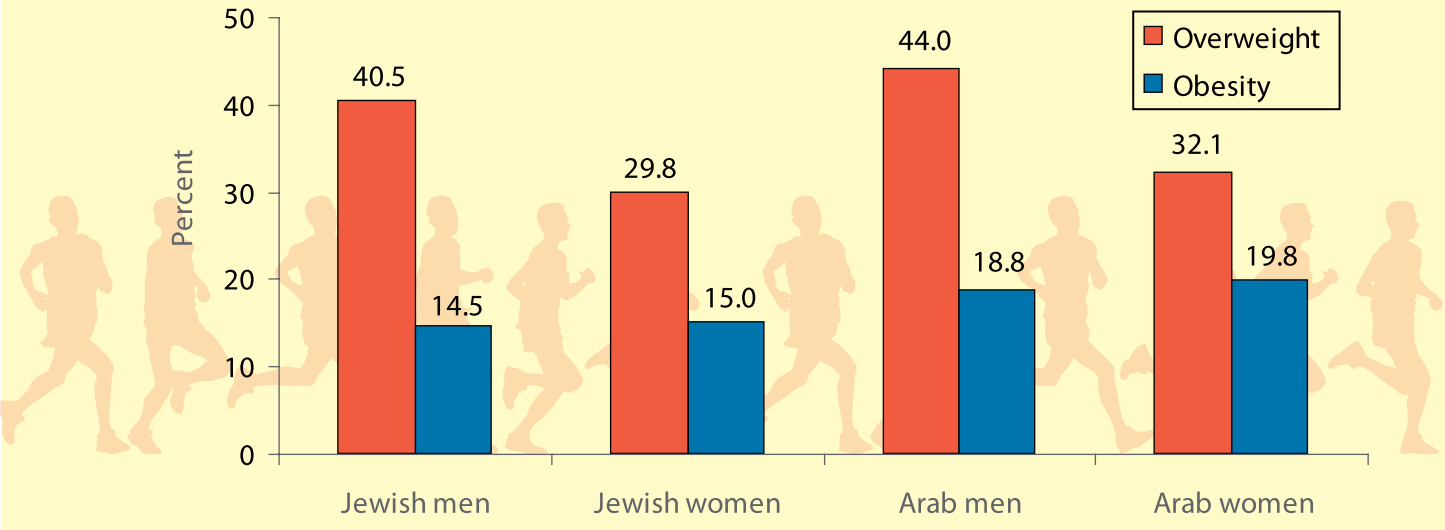
Overweight and obesity in the adult population

In the INHIS-2 national health survey conducted by the Israel Center for Disease Control (ICDC) in 2007-2008, 36.4% of the population were found to be overweight (25≤BMI<30), and 15.4% were found to be obese (BMI≥30) (based on self-reported weight and height).

Sex and population group

A higher proportion of men were found to be overweight than women, in both the Jewish and the Arab populations Overall, obesity was found in 15.2% of men and 15.7% of women. Rates of obesity were higher in the Arab population (18.8% in men and 19.8% in women) than in the Jewish population (14.5% in men and 15% in women) *(Figure 60)*.

Figure 60: Overweight (25≤BMI<30) and obesity (BMI≥30) in the adult population in Israel, by sex and population group, 2007-2008



Overweight and obesity by age

Ages 21-34: Overweight and obesity were more prevalent among men aged 21-34 than women; overweight and obesity were more prevalent in the Arab population than in the Jewish population *(Figure 61- a)*.

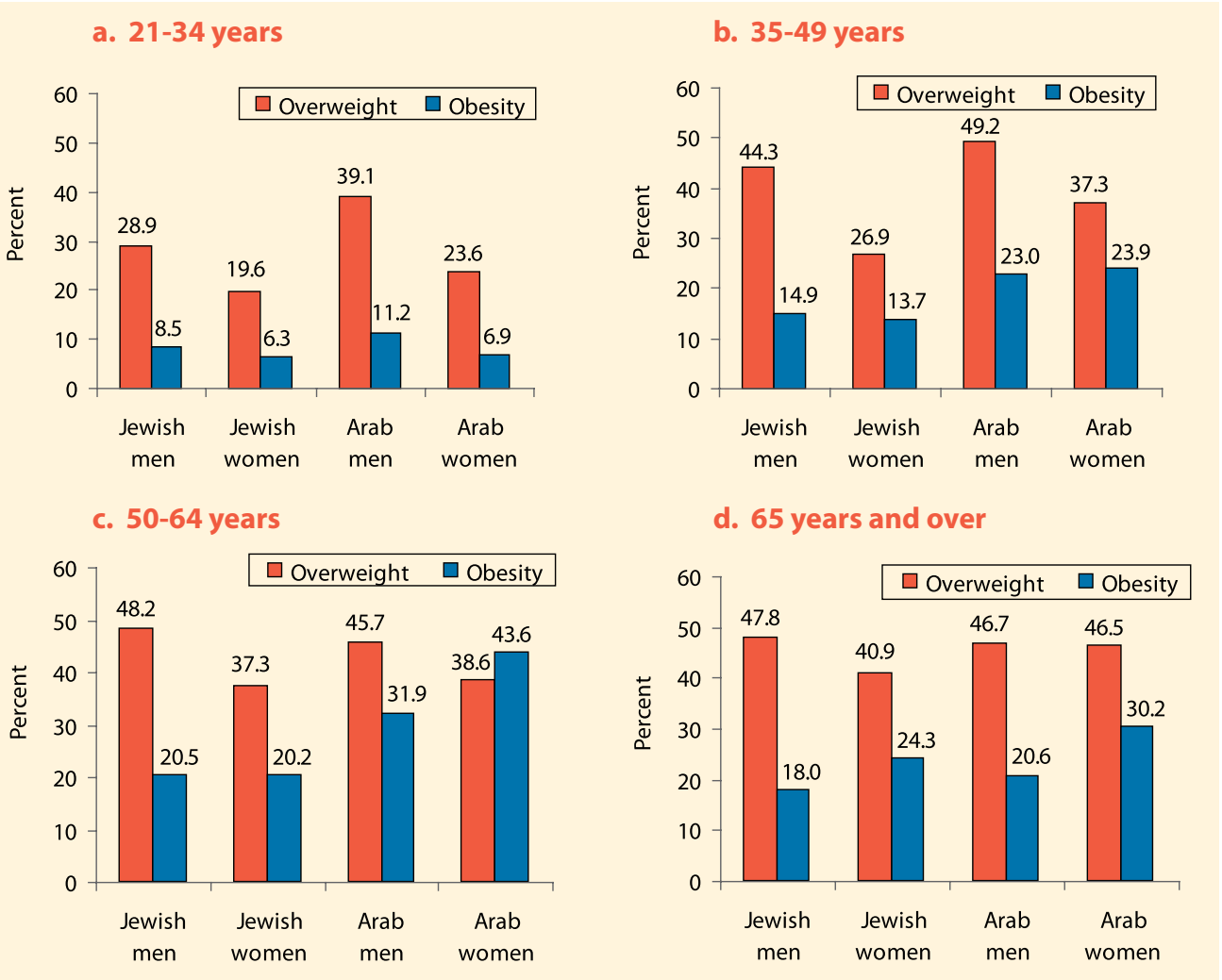
Ages 35-49: Overweight was prevalent particularly among Arab men (close to 50%), and somewhat less so (44.3%) in Jewish men. Obesity was reported in close to one-quarter of Arab men and women *(Figure 61- b)*.

Ages 50-64: Almost half of men aged 50-64 were classified as overweight (48.2% of Jewish men and 45.7% of Arab men). In both Jewish and Arab women, rates of overweight were close to 40%. Obesity was found in approximately 20% of Jewish men and women, and was more prevalent in the Arab population, reaching 43.6% among women *(Figure 61- c)*.

Ages 65 and over: Rates of overweight approached 50% in both Jewish and Arab men and in Arab women. Rates of obesity were higher in women than men, and reached 30% among Arab women *(Figure 61-d)*.



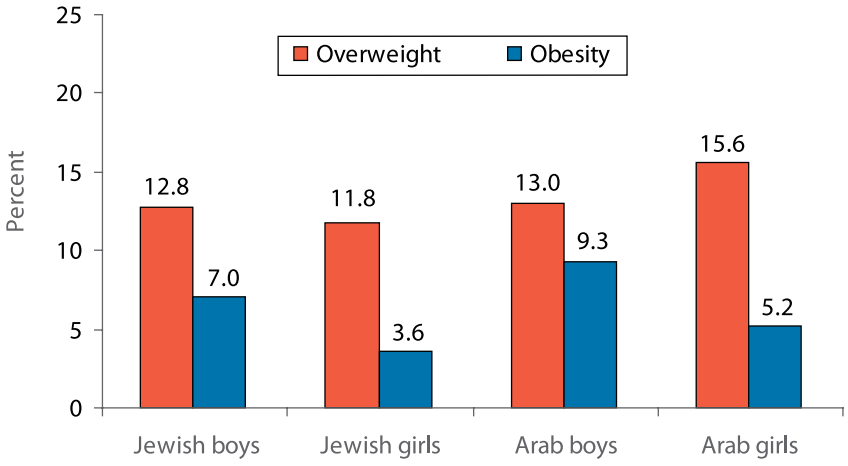
Figure 61: Overweight (25≤BMI<30) and obesity (BMI≥30) in the adult population in Israel, by age, sex and population group, 2007-2008



Overweight and obesity among youth

In the "Mabat Youth" national health and nutrition survey conducted by the ICDC in 2003-2004 among 7th-12th grade schoolchildren, the highest rates of overweight were found in Arab girls (15.6%) and the highest rates of obesity were found among Arab boys (9.3%) *(Figure 62)*.

Figure 62: Overweight (BMI percentile between 85-95) and obesity (BMI percentile>95) among youth in Israel (ages 12-18) by sex and population group, 2003-2004















Behaviors and Lifestyle

5.1 Smoking

Smoking among adolescents in Israel

In the **Health Behaviors in School-Aged Children (HBSC)** survey conducted in 2011 on a national sample of 6th, 8th and 10th grade students, smoking cigarettes at least once weekly was reported by 11.1% of male students and 3.5% of female students.

Daily smoking was reported by 6.6% of male students and 2.5% of female students.

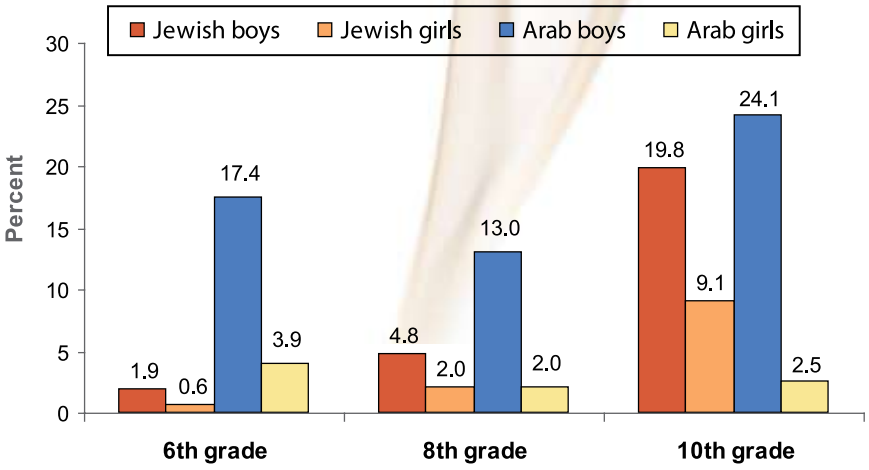
The highest rates of smoking were consistently found among Arab males.

Among Jewish students, smoking rates were relatively low in grade 6 and increased steadily with age. Among Arab male students, smoking rates were relatively high at all ages (and highest in grade 10 students). In Arab female students, no age trend was apparent in smoking rates (Figure 63).

In 10th grade students, daily smoking was reported by 12.5% of Jewish males, 7.1% of Jewish females, 17.1% of Arab males and 2.1% of Arab females.

In the 5 years elapsing since the previous HBSC survey (2006), rates of smoking at least once weekly increased by approximately 25% in Jewish males and 44% in Arab males. Among Jewish females, rates decreased slightly (by approximately 7%) and in Arab females, rates of weekly smoking remained relatively stable.

Figure 63: Smoking at least once a week among youth, by grade, sex and population group. HBSC survey, 2011



Smoking in the military



Among military inductees aged 18 (compulsory military service of 3 years for men and 2 years for women), rates of smoking in 2010 were 35% in men and 24.1% in women.

During the past decade, rates of smoking among soldiers discharged following military service have been around 41% in men and 38% in women. In 2010, the rates were lower (39% in men and 33% in women).

Smoking in the adult population (1)

In the KAP national survey of knowledge, attitudes and health-related practices conducted by the ICDC in 2008, the prevalence of smoking among adults in Israel (aged 21 and over) was 22.8%: 31.3% in men and 14.8% in women. These rates are similar to those found in the national health survey conducted by the Central Bureau of Statistics in 2009.

In the KAP 2008 national survey, rates of smoking were 27.9% in Jewish men, 16.6% in Jewish women, 48.8% in Arab men and 5.2% in Arab women.

Smoking in the adult population (2)

In Jewish men, the highest smoking rates were among ages 21-34 (32.8%). Thereafter, rates decreased with age. In Arab men, the smoking rate in ages 21-34 was 53%. Rates remained high (almost 50%) in men aged 35-54, and declined to 35.8% in men aged 55 and over.

Rates of smoking were 1.6-1.8 times higher in Arab men than in Jewish men, in all age groups.

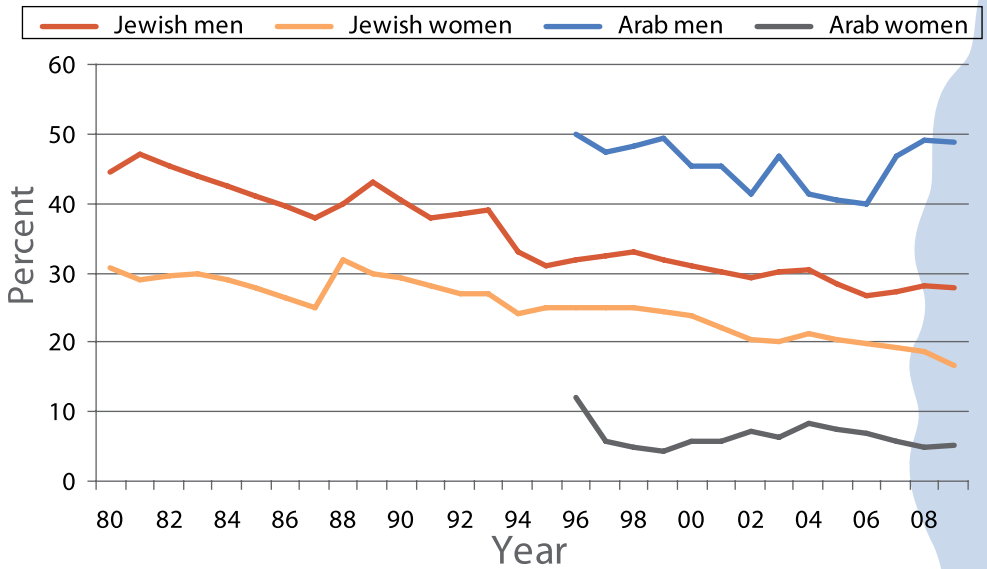
Smoking in the adult population (3)

Rates of smoking were higher in Jewish women than in Arab women, in all age groups.

In the past 30 years, a declining trend was observed in smoking rates in the Jewish population, among both men and women *(Figure 64)*.

In the Arab population rates have not declined in men. In women, rates have been relatively stable during the past decade *(Figure 64)*.

Figure 64: Trends in smoking in Israel (ages 18 and over)* by population group and sex, 1980-2009

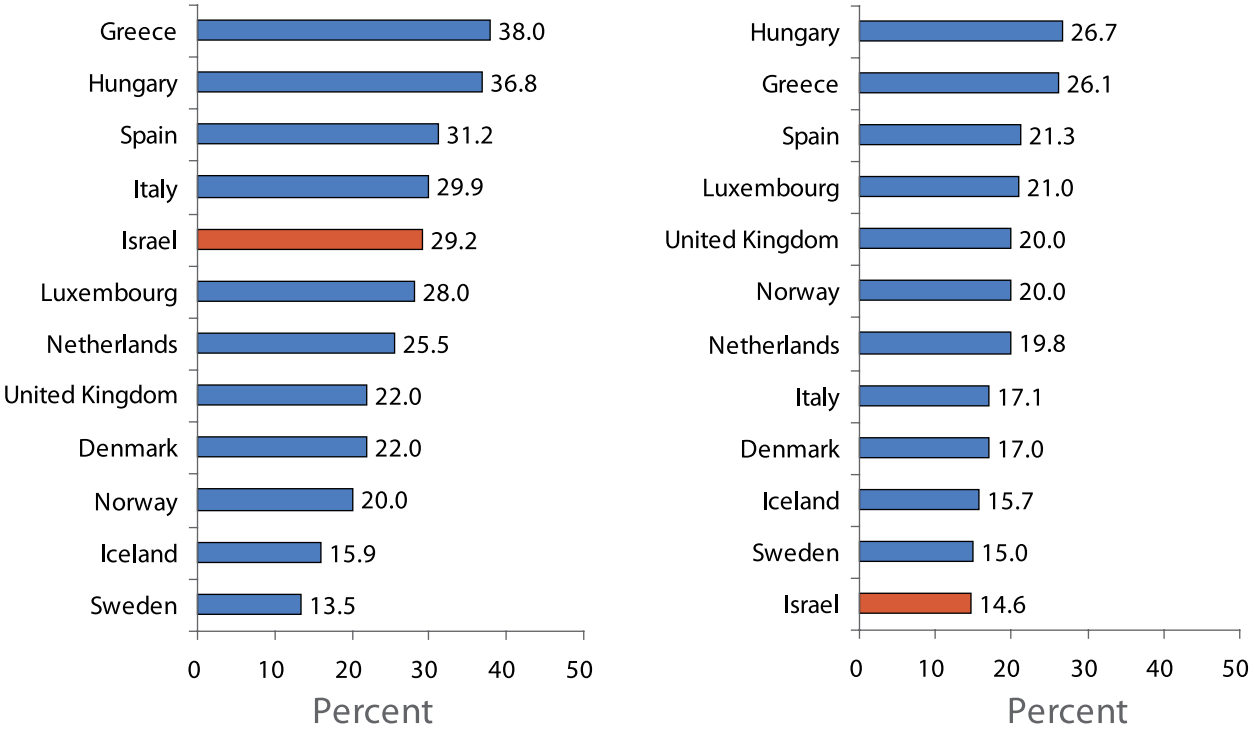


** Data on smoking in the Arab population are available from 1996 only.*

International comparison

In comparison with selected European Union (EU) countries, smoking rates in Israeli men are ranked relatively high and rates in Israeli women are relatively low *(Figure 65)*.

Figure 65: Daily smoking in Israel and selected European Union countries among adults aged 15 years and over, by sex, 2009

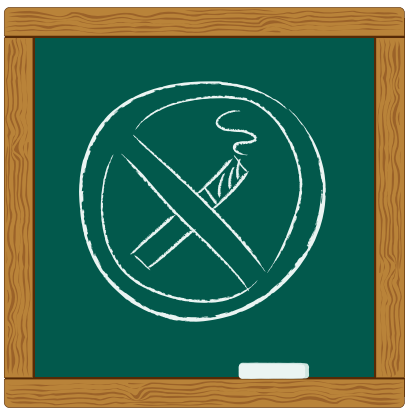


Number of cigarettes consumed

Daily consumption of cigarettes is higher among men than women.

Approximately one-third of Arab men and 13% of Jewish men who smoke are "heavy smokers" (more than 20 cigarettes per day).

Among women smokers, more than 40% of both Jewish and Arab women smoke less than 10 cigarettes per day.



Exposure to environmental tobacco smoke (ETS)

According to the INHIS national health survey conducted in 2007-2008, reported exposure to ETS among non-smokers is higher among women than men in all settings (at home, at work and in other places).

Non-smoking women reported an average weekly exposure to ETS in the home, of between 8 and 9.2 hours.

Compliance with the law against smoking in the workplace

In the KAP 2008 national survey, 76.3% of women and 63.4% of men reported that there was total compliance with the law against smoking in their places of work.

Compliance is higher in the Jewish population than in the Arab population.

5.2 Physical Activity

Physical activity among youth

In the Health Behaviors in School-aged Children (HBSC) Survey conducted in 2011 on a national sample of students in 6th, 8th and 10th grades, 28.9% of students reported engaging in physical activity at least 4 times per week, with a cumulative weekly total of at least two hours of activity.

The rate of physical activity (as defined above) was approximately twice as high in boys (38.9%) as in girls (18.9%).

Reported rates of physical activity were 42.8% in Jewish boys, 20.7% in Jewish girls, 28.4% in Arab boys and 13.9% in Arab girls.





Trends in physical activity among youth

Between, 2006-2011 rates of physical activity increased in both Jewish youth and Arab youth.

Among Jewish students, rates of physical activity increased from 36.3% to 42.8% in boys, and from 15.8% to 20.7% in girls.

Among Arab students, rates of physical activity increased from 26.8% to 28.4% in boys, and from 12.2% to 13.9% in girls.

Physical activity among adults: INHIS-2 National Health Interview Survey

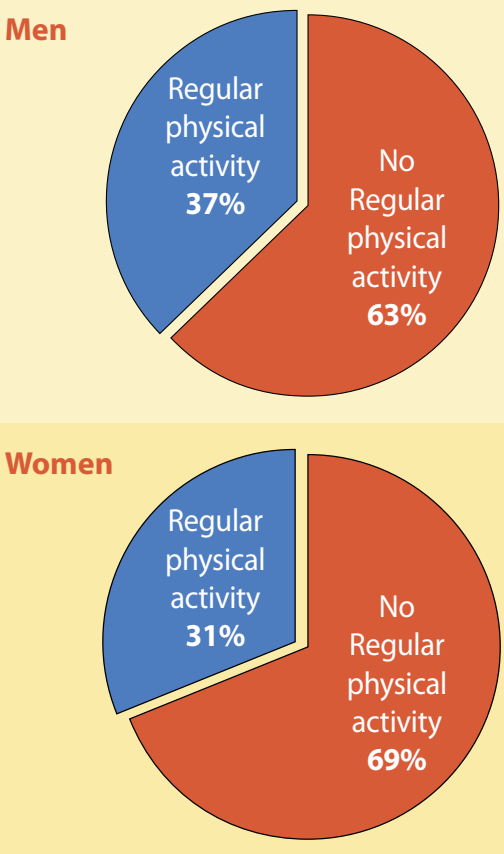
In the INHIS-2 national health survey of 2007-2008, 33.9% of respondents aged 21 and above reported engaging in physical activity at least 3 times per week, for at least 20 minutes each time. The rates were 36.6% in men and 31.4% in women *(Figure 66)*.

Physical activity (as defined above) was reported by 38.4% of Jewish men, 33.7% of Jewish women, 27.4% of Arab men and 18.5% of Arab women.

In the Jewish population, the highest rate of physical activity among men was in those aged 65 years and over: 46.5%. In women, the highest rate was in the 55-64 age group: 41.4%.

In the Arab population, the highest rate of physical activity among men was in the 21-34 age group: 31.6%. In women, the highest rates were in those aged 21-34 and 35-44: 20.4% in both groups.

Figure 66: Regular physical activity* in Israel by sex, 2008



** 3 times a week or more, at least 20 minutes each time*

Data from the CBS National Health Survey, 2009

In the 2009 health survey carried out by the Central Bureau of Statistics (CBS), physical activity 3 times per week or more (for at least 30 minutes) was reported for 21.7% of men and 19.1% of women aged 20 or over.

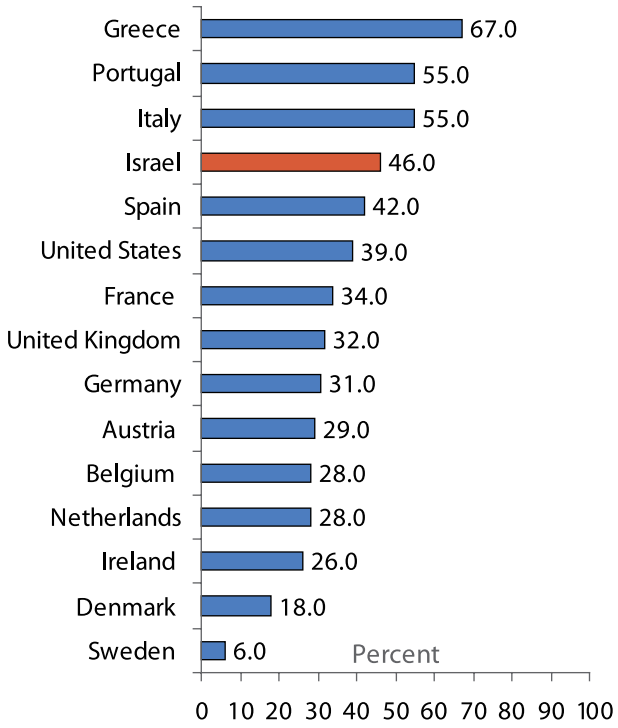




International Comparison

In comparison with the US and with European countries, rates of physical inactivity in adults in Israel are relatively high *(Figure 67)*.

Figure 67: Physical inactivity in Israel, US and selected European countries, 2008









"Healthy Israel 2020"

The Healthy Israel 2020 initiative was created by the Ministry of Health to define Israeli policy in the areas of disease prevention and health promotion.

In 2010, the subcommittee for physical activity published its recommendations (based on recommendations of international bodies)

The recommendation for children and youth is to engage in moderate or vigorous-intensity physical activity lasting at least 60 minutes on all days of the week.

The recommendation for adults is 150 minutes weekly of moderate-intensity physical activity, or 75 minutes of vigorous-intensity activity, or a combination of the two. In addition, muscle strengthening activity is required at least twice a week.

5.3 Use of Drugs and Alcohol

USE OF DRUGS AND ALCOHOL IN YOUTH

Findings of Anti-Drug Authority Survey, 2009



In the national survey among students aged 12-18 conducted by the Drug Authority in 2009, respondents were asked to report on consumption of alcohol and use of drugs.

50% reported drinking alcohol at least once during the past year.

40% reported drinking alcohol at least once during the past month.

27% reported drinking alcohol at least once during the past week.

30% reported that they had been drunk at least once during the past year.

Rates of drinking in the past year were 1.5 times higher in male students (59.4%) than in female students (40.6%).

10.7% reported use of an illegal drug during the past year.

5.7% reported use of "hard drugs" (adolan/methadone, opiates, cocaine, "crack", LSD or "ecstasy") at least once during the past year.

Reported use of drugs during the past year was twice as high in male students (14.1%) as in female students (6.9%).

Trends in use of drugs and alcohol in youth (Anti-Drug Authority Surveys)



Between 1995-2009, reported consumption of alcohol declined, from 62% in 1995 to 50% in 2009.

Between 1989-2009, rates of reported use of drugs increased, from 6.4% in 1989 to 10.7% in 2007.

Findings of Health Behaviors in School-aged Children (HBSC) Survey

In the HBSC survey conducted in 2011 on a national sample of students in 6th, 8th and 10th grades, 18.8% of students reported consuming at least one alcoholic drink per month (not including for ritual purposes).

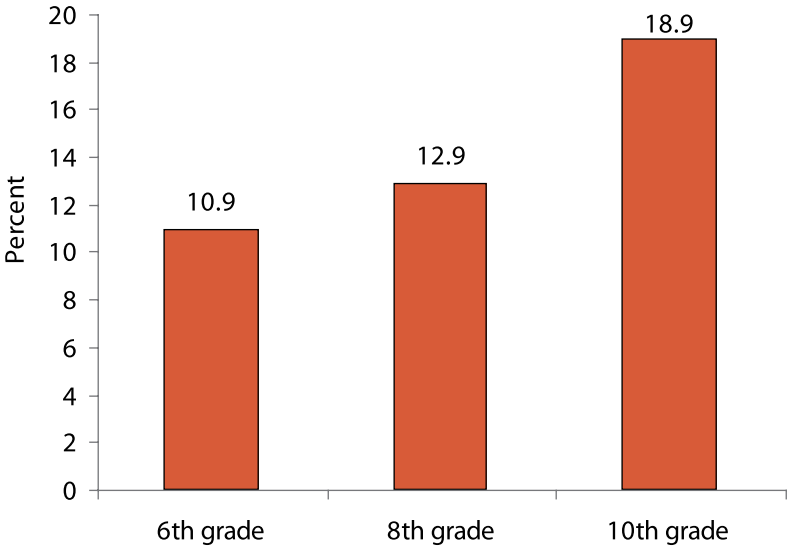
The rate of alcohol consumption was more than twice as high in boys (26.2%) as in girls (11.4%).

Reported rates of alcohol consumption at least once per month were 26.7% in Jewish boys, 13.1% in Jewish girls, 25.0% in Arab boys and 7.0% in Arab girls.

10.9% of 6th grade students, 12.9% of 8th grade students and 18.9% of 10th grade students reported drinking alcohol at least once per week *(Figure 68)*.

4.8% of Jewish 10th grade students reported that they had used hashish or marijuana during the past 12 months (6.2% of boys and 3.4% of girls).

Figure 68: Drinking alcohol at least once per week among youth, by grade, HBSC survey, 2011







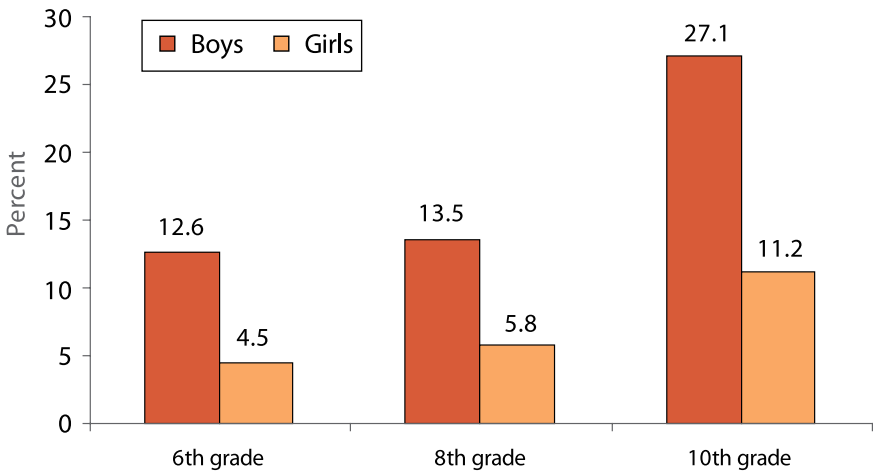


Drunkenness and binge drinking

13.8% of students reported ever having been drunk (20.0% of boys and 7.7% of girls).

12.3% of all students reported having consumed five drinks of more within a few hours at least once during the past month (17.5% of boys and 7.1% of girls). Rates increased with age, reaching 19.2% in tenth grade students (27.1% in boys and 11.2% in girls *(Figure 69)*.

Figure 69: Youth consuming 5 alcoholic drinks or more within a few hours at least once during the past month, by grade and sex. HBSC survey, 2011





Trends in use of drugs and alcohol (HBSC surveys)

Between 1998-2011, reported rates of alcohol consumption at least once per month declined, in all population groups.

Reported consumption of five drinks or more within a few hours increased, from 9.8% of students in 1998 to 12.3% in 2011.

Reported experiencing of drunkenness decreased slightly between 1998-2011, in both genders.

Reported use of hashish or marijuana in the past 12 months decreased between 1998-2011, in both genders.

USE OF DRUGS AND ALCOHOL IN ADULTS

Findings of Anti-Drug Authority Survey

In the national survey conducted by the Anti-Drug Authority in 2008 among 4,657 adults aged 18-40:

64% reported drinking alcohol at least once during the past year.

53% reported drinking alcohol at least once during the past month.

37% reported drinking alcohol at least once during the past week.





25% reported that they had been drunk at least once during the past year, and 21% reported consumption of 5 or more drinks within a few hours at least once in the past month.

Rates of drinking in the past year were 1.3 times higher in men (74%) than in women (41%).

11.4% of respondents reported using illegal drugs during the past year.

7% reported using illegal drugs at least once in the past month, and 4.3% during the past week.

8.9% reported using cannabis during the past year.
1.9% reported using "hard drugs" (adolan/methadone, opiates, cocaine, "crack", LSD or "ecstasy") at least once during the past year.

Reported use of drugs during the past year was 1.8 times higher in men (14.9%) than in women (8.1%).

Trends in use of drugs and alcohol in adults (Anti-Drug Authority Surveys)

Between 1989-2008, no significant changes were observed in reported rates of alcohol consumption.

Between 1989-2008, reported rates of use of illegal drugs increased from 6.6% to 11.4%.



Findings from the National Mental Health Survey 2003-2004

In the national health survey carried out in 2003-2004 on a representative sample of 4,859 adults aged 21 and over as part of the World Mental Health survey, 52% of the respondents reported having consumed an alcoholic beverage during the past year (67.7% of men and 38.9% of women).

5.1% reported consuming 3 or more drinks at a time, at least once a week.

Consumption of 3 or more drinks at least once a week was reported by 6.8% of men and fewer than 1% of women.

Findings from the KAP 2008 Survey

In the KAP (Knowledge, Attitudes and Behavior) national survey conducted in 2008, 49.4% of adults aged 21 years and over reported drinking alcohol during the past month.

Rates of drinking alcohol during the past month were 71.3% among Jewish men, 42.7% among Jewish women, 19.2% among Arab men and 4.5% among Arab women.

External Injuries

Chapter 6: External Injuries

6.1 Injuries



Background

External injuries are the fifth leading cause of death in the population and the principal cause of death in children, youth and young adults.

DATA FROM THE NATIONAL TRAUMA REGISTRY

The National Trauma Registry reported 33,077 persons injured in 2009, based on data from 17 medical centers.

93.1% of injuries reported to the Trauma Registry were unintentional, and 6.9% were intentional.

Intentional injuries (injuries of violence)

Most injuries resulting from violence occurred in young adults (ages 20-44): this age group accounted for 57.6% of injuries of violence in men, and 51.1% in women.

Unintentional injuries

(1) Age, sex and population group

Approximately one-third (35%) of unintentional injuries were among ages 0-19, one quarter among ages 20-44, 14.4% among ages 45-64 and an additional quarter in ages 65 and over.

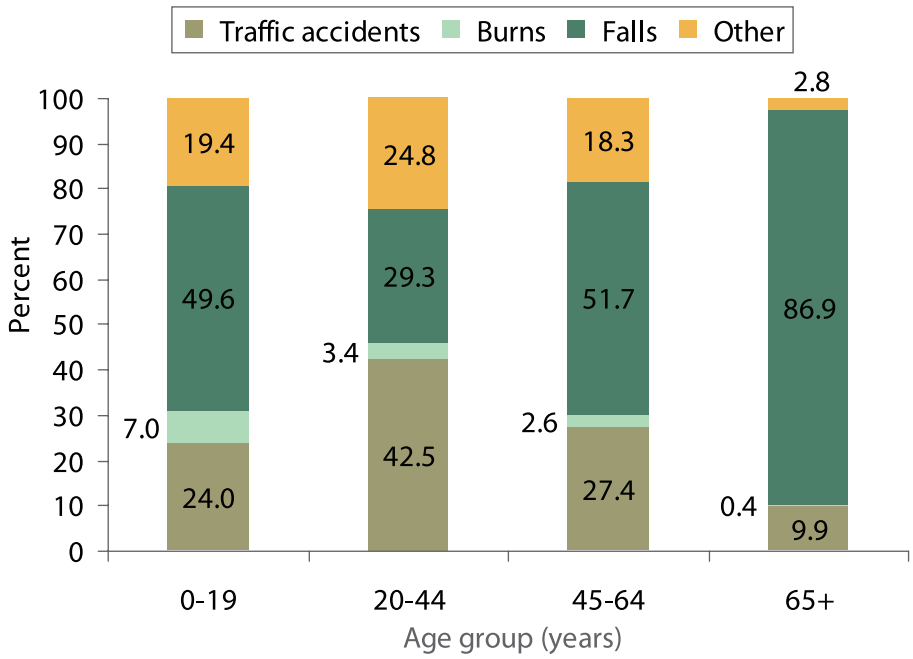
In males, most injuries were among ages 0-19 and 45-64 years (41.6%). In females, most injuries were among ages 65 and over (40%).

The relative proportion of injured persons aged 65 and over was higher in the Jewish population than in the Arab population, particularly in women.

(2) Causes, type and severity of injury

About half of injuries in ages 0-19 and 45-64 were due to falls. Among ages 65 and over, almost 90% of injuries were due to falls. In ages 20-44, the leading cause of injury was traffic accidents *(Figure 70)*.
In ages 0-19 years, most injuries were of the head and neck. In other age groups, most injuries were of the limbs.

Figure 70: Distribution of persons injured, by causes of injury and age group. National Trauma Registry, 2009





Fatalities during hospitalization

In 2009, 1.1% of injured persons died during hospitalization.

In the Jewish population, most fatalities (74%) occurred among ages 65 and over. In the Arab population, the highest proportion of fatalities (40.3%) were among ages 20-44 years.

In the Jewish population, most fatalities were caused by falls (58.1% in men and 71.3% in women).

In the Arab population, most fatalities were due to traffic accidents (60.4% in men and 57.1% in women).

Traffic accidents

(1) Data from the National Trauma Registry

Among ages 0-19, most of those injured in traffic accidents were pedestrians or cyclists.

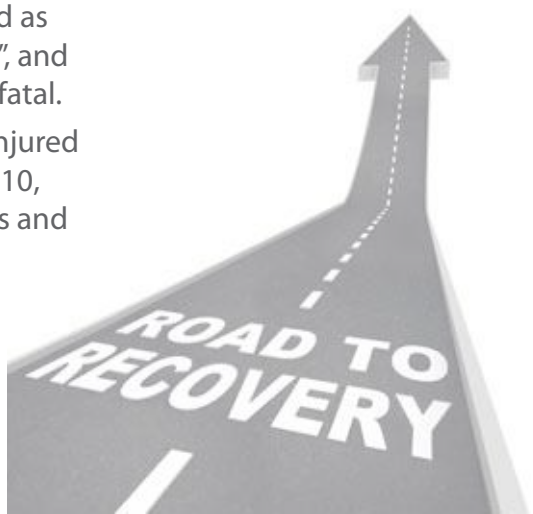
Among ages 20-44 and 45-65 years, most of those injured in traffic accidents were injured while travelling in motor vehicles.

Among ages 65 and over, most of those injured in traffic accidents were pedestrians or passengers in motor vehicles.

(2) Data from the Central Bureau of Statistics and the Road Safety Authority

In 2010, 14,724 traffic accidents with injuries were reported in Israel. 88.6% of accidents were classified as "minor", 9.3% as "severe", and 2.1% of accidents were fatal.

Of the 28,084 persons injured in traffic accidents in 2010, 74% were Jewish Israelis and 26% were Arab Israelis.



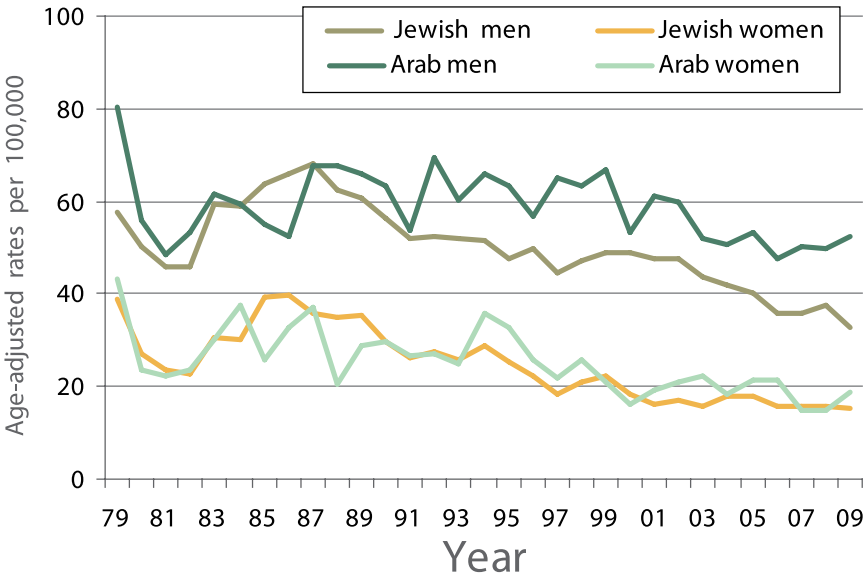
Mortality from external injuries

Trends

During the past two decades (1989-2009) mortality rates due to external injuries declined by approximately 46% in Jewish men, 55% in Jewish women, 20% in Arab men and 34% in Arab women. Mortality rates were higher in men than in women in both population groups *(Figure 71)*.

Mortality rates due to homicide and assault were low in Jewish men, Jewish women and Arab women. In Arab men rates were higher, with a peak rate of 10.4 per 100,000 in 2002.

Figure 71: Mortality from external injuries in Israel by sex and population group, 1979-2009



Violence toward women

(1) Sexual violence

According to police reports for 2010, 3,986 complaints of sexual violence against women were submitted to the police. 1,207 arrests were made.

In 2009, 35,000 calls regarding sexual violence were received by the Rape Crisis Centers. 7,594 were of victims reporting assault for the first time.

Of the first-time reports, 32% were of rape or attempted rape; 4% were of gang rape; 17% were of incest, and 13% were of sexual harassment.

Two-thirds of the victims were aged ≤ 18.

(2) Family violence

According to police reports for 2010, 15,726 complaints of family violence against women (intimate partner violence) were submitted to the police. In 2011 (1.1.2011-31.10.2011) 12,620 complaints of family violence against women were submitted.

In 2010, 18 women were murdered by their partners.

In 2011, 19 women were murdered by their partners.





Participation in fights

In the 2011 HBSC survey, approximately one third of all 6th, 8th and 10th grade students reported participating in physical fights. The rates were 50.8% in boys and 14.0% in girls.

Injuries among youth

In the 2011 national Health Behavior in School-Aged Children (HBSC) survey among 6th, 8th and 10th grade students, 59.1% of boys and 45.3% of girls in the Jewish population and 62.6% of boys and 49.0% of girls in the Arab population, reported having been injured in the past 12 months; and that in consequence they required medical care.

During 1998-2011, higher rates of injuries requiring medical treatment were consistently reported among Arab students (boys and girls) than among Jewish students.



6.2 Suicide and attempted suicide

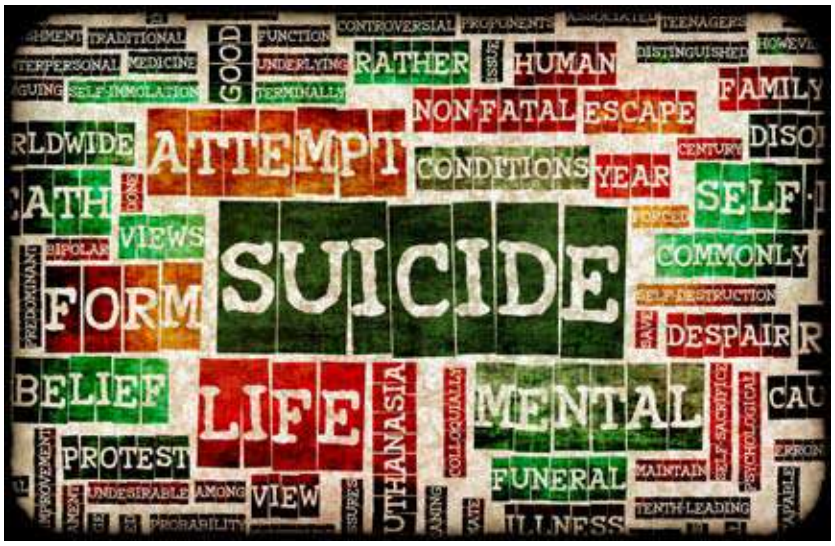
General

In 2009, 404 suicides were reported in Israel.

The age-adjusted rate of suicide was 3.5 times higher in men (8.6 per 100,000) than in women (2.4 per 100,000).

During 2010, the age-adjusted rate of attempted suicide (among persons aged 10 and over) was higher in women (107.9 per 100,000) than in men (76.1 per 100,000).

Approximately one-fifth of attempted suicides in both men and women occur at ages 18-21 years.



Trends

Between 1979-2009, rates of suicide declined by 23% in Jewish men and by 5.7% in Jewish women. During that period, rates increased by 30% in Arab men and decreased by 71.8% in Arab women.

Between 2004-2009, rates of suicide in Jewish youth declined, among both males and females. In Arab youth, rates remained steady among males, and no suicide-related deaths were reported in females.

Since 2000, an increasing trend has been observed in rates of suicides among immigrants of Ethiopian origin, particularly among males aged 15-44 years.

International comparison

Rates of suicide in Israel are lower than rates in most European Union countries and in the USA.



Mental Health

Mental Health

Psychiatric hospitalization data

Between 1990-1999, the psychiatric bed ratio in hospitals in Israel declined from 1.5 per 1,000 population (7,074 beds in 1990) to 1.0 per 1,000 population (6,005 beds in 1999). In 2008, the ratio was 0.47 per 1,000 (3,225 psychiatric beds). This declining trend is expected to continue.

In the past two decades, the male/female ratio in psychiatric hospitalizations has remained stable: approximately 60% males and 40% females.

According to 2007 data, 56.4% of patients were hospitalized with a diagnosis of schizophrenia, 12.7% were diagnosed with affective disorders, and 4.6% were hospitalized due to drug or alcohol addiction.

Between 2000-2008, the number of psychiatric hospitalizations among persons aged 65 and over declined by 32%.

Deaths and suicides during hospitalizations

During the past two decades there has been a marked decrease in the number of deaths during hospitalizations, from 188 in 1998 (171 deaths and 17 suicides) to 65 in 2007 (56 deaths and 9 suicides).



Involuntary hospitalization

Between 1992-2009, the number of involuntary psychiatric hospitalizations more than doubled, from 2,622 in 1992 to 6,054 in 2009.

During that period (1992-2009), the number of hospitalizations following court orders almost tripled, from 677 in 1992 (4.9% of total hospitalizations) to 1,747 in 2009 (8.4% of total hospitalizations).

Ambulatory care

During 1998-2006, an increase was observed in all indicators of ambulatory care: the number of persons seeking care increased by 10.4%, the number of contacts made increased by 41%, and the number of persons receiving care increased by 31%. From 2007 onwards, these indicators declined.

Mental disorders: Data from National Health Survey 2003-2004

According to data from the national mental health survey conducted in 2003-2004, the lifetime prevalence of affective disorders was 14.6% in women and 9.6% in men (Table 1).

The lifetime prevalence of post-traumatic stress disorder (PTSD) was 1.7% in women and 1.2% in men (Table 1).

The lifetime prevalence of substance abuse was 9.1% in men and 1.2% in men (Table 1).



Table 1: 12-month prevalence and life time prevalence of mental disorders, by sex, 2003-2004

Disorder	12-month prevalence (%)		Lifetime prevalence (%)	
	Men	Women	Men	Women
Any affective disorder	5.3	8.3	9.6	14.6
Major depressive disorder	4.3	7.0	7.4	12.0
Minor depressive disorder	0.4	0.8	1.1	1.8
Mania (Bipolar 1)	0.6	0.5	0.9	0.7
Dysthymia	0.3	0.9	0.6	1.3
Any anxiety disorder	2.7	3.6	3.9	6.4
Generalized anxiety disorder	1.5	2.1	2.1	3.4
Post-traumatic stress disorder	0.6	0.6	1.2	1.7
Panic disorder	0.5	0.6	0.8	1
Agoraphobia without panic disorder	0.2	0.4	0.3	0.8
Any substance disorder	2.2	0.4	9.1	1.6
Alcohol abuse	1.7	0.3	6.9	1.1
Drug abuse	0.4	0.1	2.3	0.6

Depressed mood: Data from INHIS-2 National Health Interview Survey 2007-2008

According to findings of the INHIS-2 survey conducted in 2007-2008, 2.8% of the population reported depressed mood or feeling hopeless all or most of the time during the four weeks preceding the survey.

Rates of depressed mood were higher in the older age groups (65-74 and 75 and over) than in younger age groups.

In the 65-74 and 75 and over age groups, rates were twice as high in women as in men.



Health and Environment

Health and Environment



Air pollution and respiratory disease: research in Israel

In a survey conducted in 1995 among children residing in a rural area, rates of asthma, bronchitis and cough were higher in children living in a location exposed to dust pollution from a nearby quarry than in children living in a non-exposed location.

In a survey conducted in 1996 and in 1999, reduced lung function was found in children living in an area with high levels of air pollution from a major power station.

In national surveys conducted by the Israel Center for Disease Control in 1997, 2003 and 2008, rates of asthma in children aged 13-14 were found to be stable in the Jewish population, and rising in the Arab population.

In a study of all births in the Beer Sheva area between 1995-2000 (approximately 30,000 births) a higher rate of congenital anomalies was found in the Bedouin population living in the proximity of a large industrial park (less than 20 km). In addition, a 50% higher rate of perinatal mortality was found in Bedouin residents living near the industrial park (<20 km) than those living further away.



Air pollution and cardiovascular disease: research in Israel

In a report published in 2003, approximately 3% of hospitalizations due to cardiovascular causes in persons aged 65 and over in the Tel Aviv district were attributed to PM_{10} pollution (approximately 1,220 hospitalizations).

In a study conducted in Ashkelon between 2000-2004, an association was found between higher rates of ER visits due to cardiovascular causes and days of high pollution levels.

A cohort study is presently being conducted on 1,521 patients hospitalized in 8 medical centers in Israel, to assess the associations between long-term exposure to air pollution, repeated MI, heart failure, stroke and mortality.



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Main Sources of Data

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