

Health situation in New Caledonia



# Main health facilities in New Caledonia





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# Population

# MOGRAPHIC CHARACTERISTICS

As at 1st January 2008, the population was estimated at 244 410, representing an increase of 5.9 % over the figure from the previous population census.

Distribution by province remained stable in comparison with the previous population census (Southern: 72.1 %, Northern: 18.7 %, Loyalty Islands: 9.2 %).

This population comprise 50.4 % men and 49.6 % women.

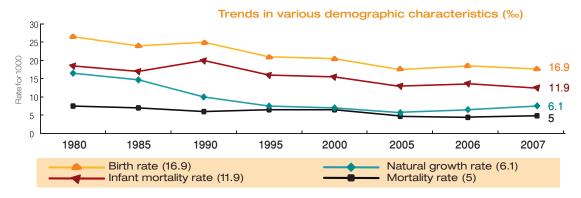
Main demographic indicators - As the 2009 population census is currently in progress, ISEE has not communicated the population figures as at 1 January 2009. For this reason, the data remain unchanged at 31 / 08 /10.

	Population as at 01/01/08	Rate of increase (%)	Number of births according to mother's place of residence	Birth rate (%)	Fertility index	Crude infant death rate (‰)	Number of deaths according to place of residence	Crude mortality rate	Crude perinatal mortality rate (%)	Life expectancy at birth
New Caledonia	244 410	11.9	4138	16.9	2.2	5	1207	5	13.5	75.9
Islands Prov. *	22 570	10.7	387	17.2	2.4	18.1	145	6.4		72.7
Northern Prov. *	45 700	9.3	701	15.4	1.9	7,1	277	6,1		73.2
Southern Prov. *	176 140	12.7	2982	17.1	2.2	4	766	4.4		76.9
France (2006)	63,75 million	4.7	830 900	12.9		3.6		8.45	7 (96)	84.4
Fr. Polynesia (2006)	279 882			17.8	2.01	6.8		4.69		76.9
Australia (2005)	19,9 million	1.2		12.7		5		6.4		83.5

<sup>\*</sup> Only persons residing in the province.

The natural growth rate<sup>1</sup> fell in 2007, from 13.0 to 11.9 ‰.

The birth rate<sup>2</sup>: - 16.9 % - has been constantly falling since the 1960s, from 34.5 in 1965, to 23.4 in 1985; then, after a spectacular recovery in 2000, it declined to its lowest ever level in 2007.



Fertility index<sup>3</sup>: 2.2 per 1 000 women of reproductive age.

A decrease in the fertility rate range by age between 1981 and 2005, with a rising average age for motherhood (from 26.4 in 1980 to 28.8 in 2007), can be observed.

Crude mortality rate<sup>4</sup>: 5 per 1 000 (6.1 ‰ for men and 3.8 ‰ for women).

After a distinct drop in the 1970s and 1980s, the crude death rate decreased at a lower rate until 1998. Since then, it has varied little and has remained slightly above 5 deaths per 1000 since 2005. Male mortality is higher, with a peak between the ages of 20 and 25.

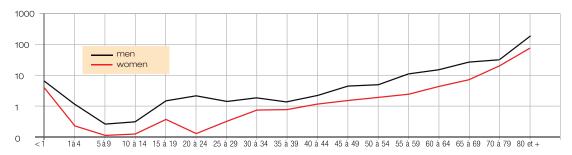
<sup>1</sup> Natural growth rate: difference between crude birth rate and crude death rate, expressed as a per 1000 population figure.

Birth rate: ratio of annual number of live births to total population at the half-way stage of the year concerned, expressed as a per 1000 population figure.

Fertility index or conjunctural fertility indicator: sum of all fertility rates by age for the year concerned.

Crude mortality rate: ratio of annual number of deaths to total population at the half-way stage of the year concerned, expressed as a per 1000 population figure.

#### Mean annual mortality rate (%) from 1996 to 2007, by age group and sex



In 2007, the crude mortality rate gradually rose in the Loyalty Islands Province (6.4) and the Northern Province (6.1). In the Southern Province, this rate remained relatively stable (4.4).

Life expectancy at birth<sup>5</sup>: 75.9 years in 2007 (men: 71.8; women: 80.3), is characterized by a regular increase, with higher gains for men than for women over the last 20 years and a continuing gap between men and women.

Infant mortality rate<sup>6</sup>: 6.1 ‰. After a sharp drop in the 1970s, this rate, which is an indicator of a country's socio-economic and health development status, fell more gradually until the early 1990s, when it dropped below 10 ‰. Since 2001, a regular but less marked decrease can be observed, with the rate moving increasingly closer to that of metropolitan France and the European countries.

New Caledonia still has a young population (43.1 % under 25 yrs old).

Improvements in socio-economic and health conditions have helped in improving life expectancy and reducing mortality, in particular infant mortality, which is now close to the developed country rate. However, the fall in the fertility rate, which is still higher than that necessary to maintain current population size, points to future difficulties associated with an ageing population.

# MEDICAL CAUSES OF DEATH

1 260 medical death certificates were issued in 2009 (men: 741; women: 519). The following classification by disease group varies only slightly from year to year.

#### In 2009, the 5 main causes of death by sex were as follows:

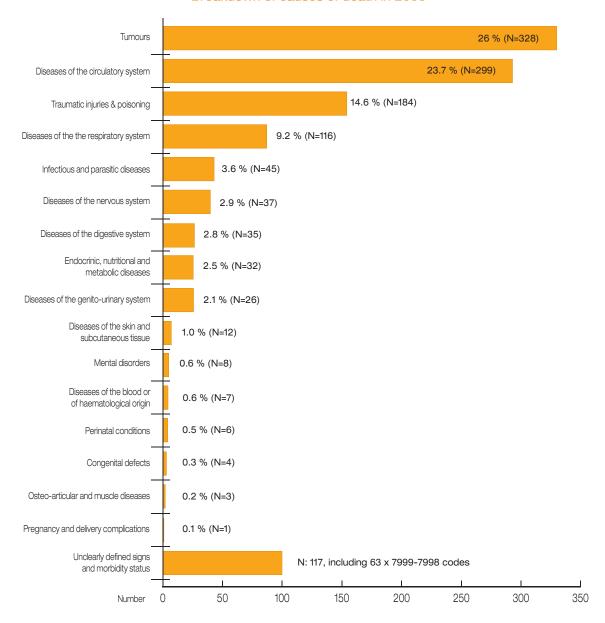
	Men	Women
Tumours	25.4 %	27 %
Circulatory system	24.7 %	22.4 %
Traumatic injuries	17.8 %	10 %
Respiratory system	8.8 %	9.8 %
Inadequately defined disease status	8.1 %	11 %

It is noteworthy that **traumatic injuries and poisonings** remain the principal causes of death in the young population for the 1991-2009 period, accounting for 64.4 % of deaths in 1-24 year-olds and 45.3 % of deaths in 25-44 year-olds. This group represents the leading cause of premature death in both sexes in New Caledonia, with 78 437 years of potential life lost (YPLL) between 1991 and 2009. This premature mortality is particularly high in males with 62 383 years of potential life lost, as compared to 16 054 years for females.

<sup>5</sup> Life expectancy at birth expresses the mean number of remaining life years for a new-born child if the mortality trends prevailing at the time of birth do not change.

<sup>6</sup> Infant mortality rate: ratio of number of deaths of children under one year of age to 1000 live births during the year concerned.

#### Breakdown of causes of death in 2009



# MEDICAL CAUSES OF PERINATAL DEATH

In 2009, 67 child deaths were reported through specific perinatal death certificates, bringing the number of deaths to 1 161 for the 1993-2009 period. Of these 1 161 certificates, only 245 (21.1%) were not reported to the civil status office.

For the 1993-2009 period, 176 certificates involved **medical terminations of pregnancy** (MTP), the most frequent reasons for which were congenital disorders (nervous. system: 26.7%, chromosomal defects: 16.4%, other congenital anomalies: 27.8%).

Of the 985 neonatal deaths not including MTP, 33.5% had no determining **foetal or neonatal cause**. For the remaining 660 certificates, the cause was child-related in 81.2% of cases and mother-related (maternal condition or pregnancy complications) in 9.8% of cases. Among child-related causes, **intra-uterine hypoxia** and/or birth asphyxia accounted for 33.6% of cases and **congenital anomalies** 18% of cases.



# Health Status

# NFECTIOUS DISEASES:

# Notifiable diseases (not including cancers - see specific section)

In 2009, 9 721 notifiable disease cases were reported, not including cancers.

Following the establishment of the register of rheumatic fever (RF) patients by the health agency, RF has been covered by detailed analysis in a special section (see summary in the following pages).

## Two reporting categories exist:

**Emergency alert:** an emergency procedure, to issue an alert and communicate individual case data without delay and using any appropriate means with no specific form or format.

**Notification:** a procedure for individual data transmission by the notifying physician or biologist, using a specific form for each disease.

Notifiable disease										
of group B	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Amoebiasis	13	20	11	6	0	1	1	1	0	0
Whoping cough	3	0	1	0	1	72	4	1	0	1
Dengue fever	12	34	105	5673	792	46	48	47	1179	8410
Diphteria	0	0	0	0	0	1	0	0	0	0
Typhoid and paratyphoid fever	0	3	0	0	0	1	0	1	0	0
Viral Hepatitis B	40	49	31	39	29	11	9	31	102	33
Viral Hepatitis C	0	1	0	0	0	0	0	2	0	2
Leprosy	7	7	2	4	8	4	7	2	6	7
Leptospirosis	28	23	49	23	13	40	65	53	157	162
Meningococcal meningitis	4	9	10	11	3	5	7	13	9	8
Indigenous and imported malaria	3	1	1	5	6	0	0	0	2	0
Measles	0	0	0	0	0	0	1	0	0	0
HIV - related syndromes	21	15	17	8	7	13	10	21	15	13
Tetanus	0	1	0	0	0	0	0	0	0	0
Collective food poisoning (foci)	3	9	1	6	0	8	10	8	6	9
Tuberculosis (incl. latent infection)	171	100	112	82	84	72	90	67	80	83

In 2009, no cases of poliomyelitis, botulism or brucellosis were observed. 162 cases of leptospirosis and 8 410 cases of dengue were reported.

# Sexually transmitted diseases

Notifiable diseases of group C	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Condyloma acuminatum	26	27	28	26	17	3	12	22	28	25
Genital herpes	2	3	3	5	4	2	3	10	8	7
Mycoplasma infections	115	119	107	90	93	108	134	219	184	160
Genital chlamydial infections	94	96	71	86	88	71	96	148	191	202
Gonococcal infections	52	55	49	31	33	35	58	82	90	77
Syphilis	24	16	11	10	20	15	21	37	36	46
Urogenital trichomoniasis	250	203	156	171	152	114	98	199	113	153
Other venereal diseases	339	225	182	102	62	62	80	60	67	81

#### **HIV-AIDS**

Statistical data regarding HIV infection come from notifiable disease surveillance activities and from specific initial notification forms and supplementary notifications of HIV-induced syndromes.

13 new HIV-positive cases were recorded in 2009 (including 9 confirmed by laboratories outside New Caledonia and 4 diagnosed and confirmed by IPNC).

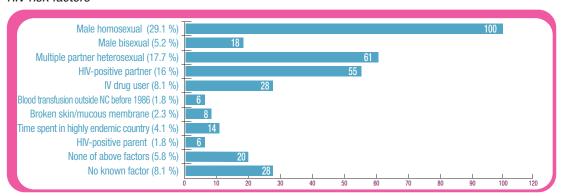
This brings to 344 the accumulated number of cases since 1986.

# Annual progression depending on the stage of infection (accumulated cases)



As at 31st December 2009, the sex-ratio of accumulated cases was 3 males for 1 female. The most affected age group, as in previous years, was the 20-39 year group, with a rate of 29.7 per 10 000 population.

#### HIV risk factors

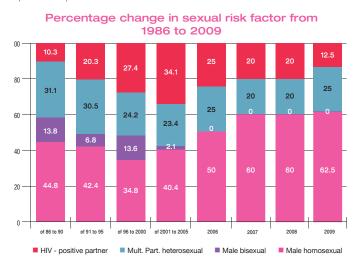


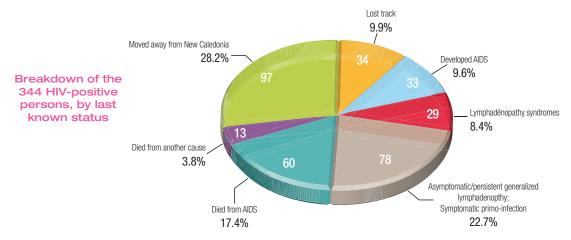
Breakdown of the 344 HIV-positive cases by risk factor

With regard to the cases whose risk factors are known, it can be noted that 74.1 % are linked to a sexual mode of HIV transmission, 50.4 % of which (118/234) are male homo/bisexuals.

Over time, the 'HIV-positive partner' percentage has increased considerably, from 10.3 % (from 1986 to 1990) to 34 % (from 2001 to 2006) in sexual risk factors.

Of the 28 (8.1 %) intravenous drug users (4 women and 24 men), 16 had been residing in the territory for less than 6 months at the time of notification; 11 had been residents for more than 6 months and 1 often travelled outside New Caledonia.





#### Last known status of HIV-positive persons

'Last known status' refers to the assessment contained in the latest supplementary report prepared by the attending physician. Of the 344 HIV-positive patients, **73 have died** (including 13 of a cause other than AIDS) and 131 have moved away from New Caledonia or are no longer being monitored. Among the latter, some have probably left New Caledonia for good.

In New Caledonia, of the 13 cases recorded in 2009, 8 (61.5 %) were at the asymptomatic stage, 1 (7.7 %) was at the symptomatic non-AIDS stage and 4 (31.8 %) at the confirmed AIDS stage.

# Free and anonymous testing and counselling centres (CDAG)

In 1992, the Territorial Congress Standing Committee introduced free and anonymous testing and counselling centres (CDAG) for the human immuno-deficiency virus (HIV) (Resolution N° 211/CP dated 30 October 1992). This resolution was superseded by Resolution N° 154/CP dated 16 April 2004, specifying the standards of training required and the operating conditions for these CDAG.

The consultation is conducted by a consulting physician or a midwife approved by the Medical Inspector after receiving specific training on counselling in relation to HIV infection testing. Approved personnel receive patients either in their surgery (private practitioners and midwives) or at the counselling centres (these centres must meet requirements laid down in the resolution: the venue must be part of a multi-purpose medical centre, the counselling must protect the confidentiality and anonymity of the process and the staff must have received special training for counselling).

Each consultation must include a counselling session covered by a questionnaire, developed by the Medical Inspector and completed by the doctor or midwife.

Since November 2005 and in 5 successive training sessions, 75 health professionals (52 doctors and 23 midwives) have been trained and are approved and active in New Caledonia. It should however be noted that, for 21 of them (12 doctors and 9 midwives), their approval has only been operational since early 2009. The CDAG 2009 records were therefore compiled with contributions from 48 professionals (of the 75 possible, i.e.64 % of them)

An analysis of the 2 351 strictly anonymous questionnaires completed in 2009 and returned to the DASS-NC Health Action Department, showed a 17.1 % decrease in the number of reports received in 2009 as compared to 2008.

- Under-35s accounted for over ¾ (79.3 %) of patients (45.9 % between 15 and 24 years and 32.4 % between 25 and 34 years).
- European patients accounted for 48.3 % of consultations. Melanesian patients represented a little over one third (35.2 %).
- 'Risky behaviour' was referred to in 42.5 % of cases, far more than 'early stage of relationship' (19.3 %).
- 'Pregnancy' was a reason for coming in 9.3 % of cases (for 15.3 % of women) and 1.9 % of consultation by a spouse or partner.

It should be noted that 149 patients (6.3 % of patients) reported a split condom.

#### Conclusions

The 2009 analysis confirms conclusions from previous years:

- The majority (60.1 %) of the data analysed in 2009 relates to the Noumea 'ESPAS CMP' (the Multi-purpose
  Medical Centre of DPASS Southern Province, referred to in previous years as the Noumea CDAG). The
  expansion in 2006 to 54 professionals approved to conduct consultations should make it possible to gradually
  increase and diversify the CDAG's range of patients, mainly through increasing territorial coverage.
- In 2008, 21 more professionals were approved. They now number 75 altogether. But only in 2009 did their contribution to the number of free and anonymous consultations come through. The number of consultations conducted outside the ESPAS CMP structure increased from 231 in 2006 to 938 in 2009. These newly qualified staff strengthen the supply of services to the community in the screening and prevention areas. It remains necessary however to train more professionals in some parts of New Caledonia and especially in the Islands and Northern Provinces in order to offer a better service to all their communes.
- The importance of the ESPAS CMP (especially the pilot training and incentive role played by the team there) is evident in the high number of tests carried out and the number of people who, over 17 years, have enjoyed personalised treatment whether or not followed by testing.
- Research on patient characteristics has enabled us to detect risky behaviour and lack of understanding of prevention approaches and virus transmission.

# **Sexually transmitted diseases**

**803 notifications were received in 2009,** the majority (91.5 %) from the provincial medical districts and the Southern Province dispensaries (ESPAS-CMP multi-purpose medical centre, mother and infant health protection centre and family counselling services) because of under-notification by the private sector. Despite this under-reporting, prevention, information and screening work should be kept up, even if certain diseases such as syphilis are less common.

The number of notified STD cases remains higher in women than in men; the female/male ratio is 4. This should be related to the reproductively active age period when women see a practitioner more often to start or check contraception, but also for prenatal care.

OTD 10					
STD / Sex	Male	Female	ND	Total	%
Molloscum contagiosum	0	0	0	0	0
Sost chancre	1	4	0	5	1
Genital herpes	1	6	0	7	1
Condyloma acuminatum	0	25	0	25	3
Urogenital candidiasis	0	47	0	47	6
Syphilis	12	33	1	46	6
Gonococcal infections	42	33	2	77	10
Other venereal diseases	29	52	0	81	10
Urogenital trichomoniasis	3	149	1	153	19
Mycoplasma infections	32	128	0	160	20
Chlamydial genital infections	40	161	1	202	25
Total	160	638	5	803	100

Medical laboratory data also emphasize the need for surveillance and data collection. In recent years the trend is a clear drop in the number of STD notifications (especially in the private sector from 2000), while the demand for biological testing and positive results (at IPNC in particular) are not decreasing.

Those discrepancies underline the need to improve the STD notification process, and therefore obtain more representative results at the scale of New Caledonia.

# Viral hepatitis

33 new cases of hepatitis B were recorded in 2009. All concerned adults.

The proportion of cases of children under 15 years has diminished as a result of the introduction of systematic vaccination of all newborns in 1989 (38% in 1992, 5.8 % in 1996, 6.4 % in 1998, 2.5% in 2000 and 0 % since 2005).

The 3 cases in 2003, which raised the rate to 7.7 % for that year and confirm the need to vaccinate at childbirth, should be noted. There were 2 cases of Hepatitis C in 2009.

# **Tuberculosis**

The World Health Organization has already advised that the number of tuberculosis cases has risen spectacularly in Europe and North America in the last few years.

Among the factors contributing to this resurgence, WHO reports the deterioration of tuberculosis control programmes and the link between tuberculosis and HIV. Also, new drug-resistant bacteria are developing throughout the world.

In New Caledonia, **63 new cases** of tuberculosis were notified in 2009 (51 in 2008), including 46 cases of **pulmonary tuberculosis** (35 in 2008). After a drastic fall of the incidence rate in 2003 (17 per 100 000 population), the incidence rate in 2009 is equal to **25.7 per 100 000**. Even though there has been a downward trend since the beginning of the 1990s, it remains at high levels in comparison to industrialized countries, and at a lower level than world incidence.

There are **18 cases** from **direct positive testing** (11 in 2008), all of **pulmonary tuberculosis**. Contagious tuberculosis enables tuberculosis infection to perpetuate itself. Diagnosis must occur as early as possible, treatment must be strictly followed and the identification of infected persons commenced as soon as reliable treatment starts. The incidence rate of tuberculosis from direct positive testing (**smear-positive**) was 7.3 per 100 000 (5.3 in 2008).

#### Incidence/100 000 of all forms of tuberculosis and smear-positive tuberculosis

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
All forms	57.8	64.4	50.1	51.1	40.1	48.3	28.8	30.1	17	28.5	22.8	21.6	19.6	20.9	25.7
Smear positive	16.7	21	17.5	18.7	13	11.4	9.8	9.6	6.3	8.8	7.3	5.1	5.8	5.3	7.3

#### Treatment:

By definition, tuberculosis is considered cured when sputum specimens are negative two and five months after the beginning of treatment. If these tests are not performed, treatment is said to be completed or finished. The WHO strategy regards a programme to be efficient if the rate of cure is above the 85 % mark.

For patients tested in 2008, a rate of cure of 76.9 % (smear-positive) was recorded.

# Patient characteristics

A detailed study of the 368 tuberculosis cases notified during the last 7 years, all types combined (from 2003 to 2009) shows that 67.7 % of the cases are **pulmonary forms**. All areas are affected by the disease, which is more frequent however in the communes of Belep, Ponerihouen and Kaala-Gomen, where rates are higher than in other areas.

The diagnosis was made from clinical signs in 68.2 % of the cases. 9 % of new cases were relapses. In metropolitan France, this disease still occurs, with an incidence rate equal to 9 per 100 000 in 2008. Regional disparities are observed, with the highest rate in the Ile-de-France region where it reaches 17.9, a figure similar to that of New Caledonia.

## Note (2007)

High notification rates were observed in certain population groups, such as persons born abroad (41.5/100 000), in particular in sub-Saharan Africa (130/100 000) and those having arrived in France less than two years previously (251/100 000) as well as persons with no fixed abode (214/100 000) and persons aged 80 years and over (21.7/100 000).

## **Rheumatic fever**

Rheumatic fever (RF) mostly affects children and adolescents and is a disease with severe medical, human, social and economic consequences.

Rheumatic fever is a possible consequence of a probably auto-immune mechanism of bacterial angina due to a group A beta-haemolytic streptococcus (GABHS). It is common among children but in New Caledonia outbreaks can occur very late in life (age 35).

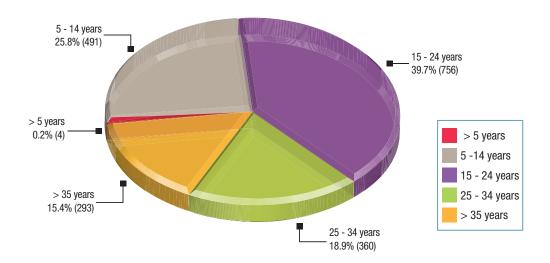
By a resolution dated 11th August 1994, the Territorial Congress decided that rheumatic fever would become was one of 9 priority preventive programmes.

A register was set up to monitor the situation.

As at 31 December 2009, 2 527 cases had been recorded, including 623 now archived because they had completed their treatment, or because of a chronic rheumatic cardiopathy being attended to by cardiologists.

The active list is equal to 1 904 patients.

The prevalence is estimated at 7.7 per 1 000 in New Caledonia, all ages combined, and varies depending on commune (referring physicians assigned by commune):



Breakdown of the 1 904 cases of rheumatic fever by age group

The female / male ratio was 1.2, expressing a slight over-representation of women as compared to the overall population balance.

Prevalence by province per 1 000 of the population:

- 15.2 in the Northern Province;
- 14.7 in the Islands Province:
- 5.2 in the Southern Province.

In 2009, 190 cases were added to the RF register.

#### Conclusion

Despite RF being a notifiable disease, it is extensively under-reported. DASS conducts systematic surveys in order to offset this weakness.

# Leprosy

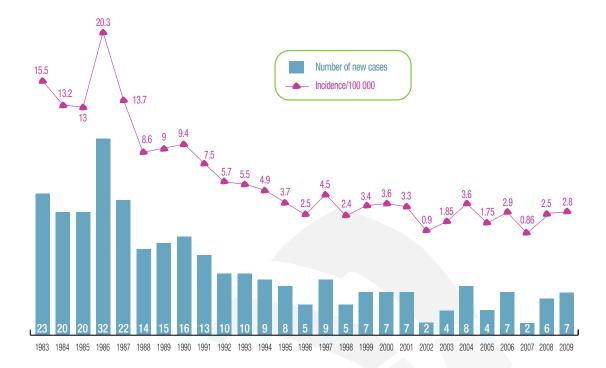
Leprosy (or Hansen's disease) is a chronic infectious disease caused by the acid-fast bacillus (Mycobacterium leprae, formerly Hansen's Bacillus), transmitted through direct, intimate and prolonged contact with an infected person. The leprosy registry covers 27 years, from 1983 to 2009 and comprises 292 records.

The Hansen's disease control programme is conducted by the dermatology department of the Nouméa CHT (Territorial Hospital). Screening in New Caledonia is essentially passive, the large majority of patients being referred by either their attending physician or their dispensary physician.

The multidrug leprosy treatment (MDT) programme has reduced the prevalence of leprosy in New Caledonia and this disease is no longer a major public health problem.

With 7 new cases in 2009, the incidence rate is 2.8 per 100 000.

In 2009, the 4 new cases were multi-bacillus.



In the 292 cases recorded since 1983, the following was observed:

- A male predominance: 191 men and 101 women.
- An ethnic disparity, with higher representation of the Melanesian community (251 persons) than other ethnic groups (Europeans: 30 cases; others: 17 cases).

#### Prevalence

In 2009, only 10 patients were treated with multidrug therapy, which represents a prevalence rate equal to 0.4 per 10 000 population.

#### International situation

#### Source: WHO

The number of new cases detected in the world in 2008 was 249 007.

This number has fallen by 2.2 % over 2007. This drop results mainly from a fall in the number of new cases in India (367 143 cases in 2003 and 260 063 cases in 2004, 169 709 in 2005 and 139 252 in 2006 and 134 184 in 2008).

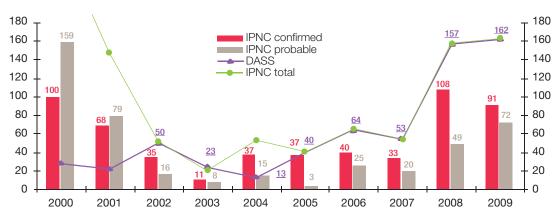
In 2008, the number of cases in India represented 53.9 % of the total number of cases in the world.

# Leptospirosis

In New Caledonia, leptospirosis is an endemic disease that can surge to outbreak status depending on the weather.

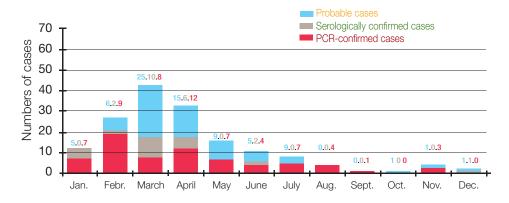
In 2009, 162 cases were reported.

#### Number of new cases and incidence since 2000



In 2009, this disease mainly affected men (63.6 %), and young adults (average age 34 years). Infection is probably due to risky behaviour, through daily or occupational contact with infected animals or contaminated soil. Infections in children and adolescents can be linked to exposure during leisure activities such as bathing in fresh water. Most cases were reported between February and April (63.5 %).

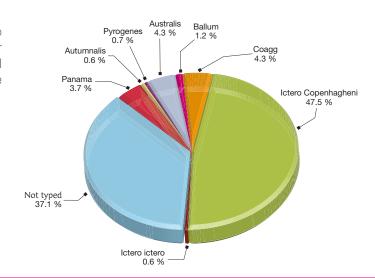
# Monthly distribution of accumulated cases in 2009



In 2009, 2 deaths were directly due to leptospirosis. A study of cases over the last 5 years shows geographical disparities, with average incidence higher in Bourail.

The most frequently identified serogroups in 2009 were:

- Ictero-haemorrhagiae copenhagheni
- Pyrogenes
- Australis.



# Dengue fever

Dengue fever is a viral condition transmitted by the Aedes aegypti mosquito that lays its eggs in clean water (empty tin cans, etc.).

This arbovirus has 4 serotypes, without cross immunity, but giving permanent immunity for each of the serotypes.

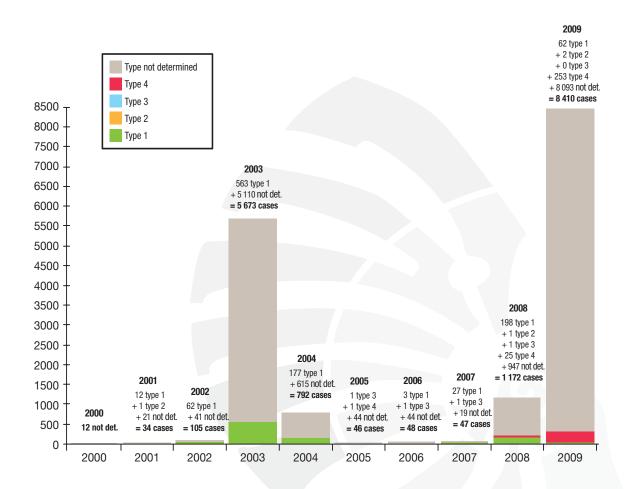
Reinfection by another serotype can cause the onset of a more severe form of the disease.

After the 2003 epidemic, during which 5 673 cases and 17 dengue-related deaths were recorded, the 2005 - 2007 period was were much calmer (46, 48 and 47 cases respectively, no deaths).

Residual virus transmission occurred during the first half of 2004; then no new cases were confirmed by identification of the viral genome apart from 2 imported Dengue 3 and 4 cases in September 2005.

In 2009, an unprecedented epidemic affected New Caledonia. 8 410 cases were recorded. Serotype 4 was dominant throughout the epidemic.

#### Different dengue fever serotypes during epidemics from 1996 to 2009



#### Diseases under surveillance

Weekly disease reporting by 'clustered data' was introduced in the provincial public health services. Theoretically, they come from the two hospitals in the Northern Province, 26 socio-medical districts in the Loyalty Islands, Northern and Southern Provinces, the mother and child protection centres and the multipurpose medical centre in Nouméa.

For 2009, about 2.7 % of the expected reports were received by DASS-NC. For 2009, the data presented in this report are those supplied by the Southern Province Health Service ('DPASS-Sud') and IPNC.

Disease	N° of cases 2005	N° of cases 2006	N° of cases 2007	N° of cases 2008	N° of cases 2009
Acute conjonctivitis	224	438	304	109	79
Ear infection	628	1547	949	245	145
Acute respiratory tract infection	3261	7503	3372	1089	183
Pneumonia	30	20	19	8	621
Influenza	254	975	571	144	1055
Salmonella infection without typhoid	0	21	0	40	0
Shigellosis	0	5	0	14	19
Other Protozoal intestinal diseases	2	0	1	0	0
Diarrhoea	276	613	375	95	137
Acute viral hepatitis other than B or C	787	68	5	1	76
Meningitis other than meningococcal	0	8	4	2	1
Ciguatera	25	67	25	5	2

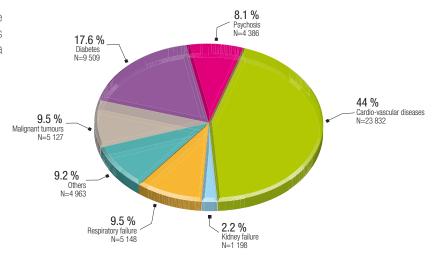
# **CHRONIC DISEASES**

Most chronic diseases are covered as 'prolonged diseases' under the CAFAT social security system for insured persons and other entitled persons.

Since July 2002, with the creation of 'RUAMM', the number of insured persons has risen considerably to include public servants and other new contributors. It comprised 238 000 beneficiaries as at 31st December 2008.

In 2009, 34 223 persons were covered under the prolonged disease arrangement (14.4 % of the RUAMM total) for 54 163 conditions (certain patients may be covered for more than one disease).

The breakdown of the main chronic diseases covered in New Caledonia is shown in the graph.



#### **Cancers**

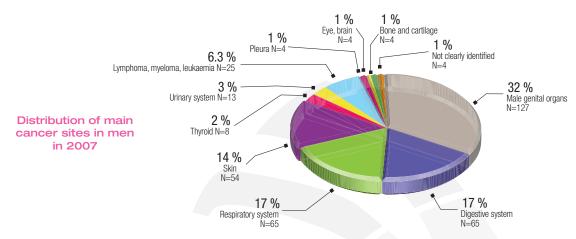
The New Caledonian data come from the Cancer Registry, whose records are compiled from the anatomo-pathological reports from the laboratories, subsequently supplemented by surgical data and notification forms completed by physicians from both private and public practices. Under an agreement, the Health and Social Affairs Service (DASS) has delegated responsibility for maintaining the New Caledonia Cancer Registry to the Pasteur Institute of New Caledonia (IPNC). The figures included are data from the records as at 15/06/2009 and are subject to subsequent modification by IPNC.

- Included: data on all malignant and invasive tumours.
- Not included: in situ malignant tumours, benign tumours as well as all recurrences of already registered malignant tumours and cancer metastasis when the primary site is known and registered.

Since 2001, all skin carcinomas have been included in the register, following recommendations from the INVS (French health surveillance institute). The coding used in the register is that of the World Health Organization International Disease Classification, 10th revision ('ICD 10').

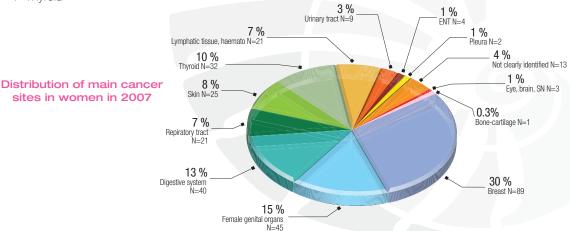
As the 2008 data are still undergoing a validation process, the 2007 data will be presented in this report. For **2007**, therefore, **703** new cases of tumours were recorded, 392 in men and 311 in women. Cancer sites vary between the sexes. In men, the most frequent were:

- 1. Genital organs, principally the prostate (97.6 %)
- 2. Respiratory tract
- 3. Digestive system (stomach-oesophagus: 32.3 %, colon-rectum: 49.2 % of the group)

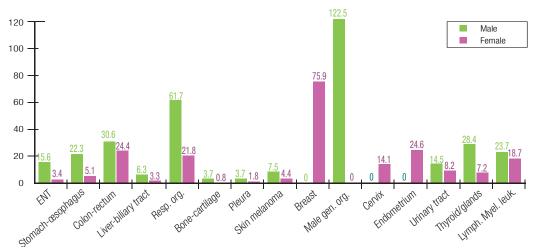


In women, the main cancers were:

- 1- Breast
- 2- Genital organs (endometrium: 48.8 %, cervix: 40 % of the group)
- 3- Digestive system
- 4- Thyroid



#### **INCIDENCE OF CANCERS IN 2007**



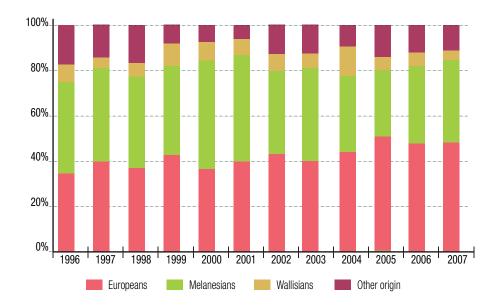
The crude rate is the frequency of new cases per 100 000 population in one year. Standardised rates, computed from the generally used reference world population, make international comparisons possible, by limiting the effect due to the different age structures of the populations concerned.

The crude rate in men, all sites combined, is equal to 336.5 per 100 000 person-years (PY) and the standardised rate is equal to 365.8 PY.

In women, the crude rate is equal to 272.8 PY and the standardised rate is equal to 279.6 PY.

New Caledonia is a high-incidence country for some cancers: thyroid (highest world rate), male genital organs, oropharynx, broncho-pulmonary locations, mesotheliomas, breast, urinary tracts, lymphomas, myelomas, leukaemias and malignant melanomas.

It is in the medium incidence group of countries for cancers of the stomach, oesophagus, liver, biliary organs, cervix and endometrium.



#### In total

In 2007, the most common cancers in New Caledonia were cancers of the prostate, the digestive system, the breast, the respiratory organs and the skin. This order varies with gender.

Improvements in data collection, screening and diagnosis mean that the number of new cases of cancer increases each year with diagnosis occurring at an increasingly earlier stage.

#### Chronic renal failure

Chronic renal failure (CRF) can be defined as the gradual loss of filtration, excretion and endocrine secretion functions by the renal parenchyma, as a consequence of irreversible anatomical lesions.

Most renal diseases develop, albeit at different speeds, towards a stage called chronic uraemia. When CRF reaches an advanced stage, it becomes essential for the patient's survival to offset the failure of the sick organ, either by kidney transplant or graft, or by extra-renal purification.

Three facilities provide extra-renal purification through Haemodialysis and Peritoneal Dialysis.

Depending on the options chosen, these two processes are broken down into several treatment plans. Haemodialysis can take the form of hospital haemodialysis, simple haemodialysis, home haemodialysis or auto-dialysis.

Peritoneal dialysis comprises continuous ambulatory peritoneal dialysis (CAPD) and Automated Peritoneal Dialysis (APD).

The third compensatory technique is Renal Transplantation, but this is not available in New Caledonia. Pending the introduction of a local transplant programme, patients are sent to Metropolitan France or Australia.

The increasing number of patients treated for chronic renal failure makes this condition a public health problem. As at 31st December 2009, 417 patients were under treatment for CRF, an increase of 3.4 % over 2008 and a prevalence rate equal to 1 610 per million population (PMP), a crude rate 1.6 times higher than in Metropolitan France in 2007 (1013 PMP).

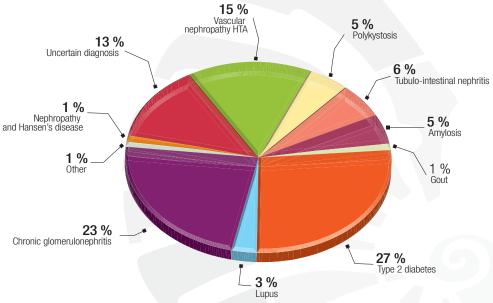
With 75 new patients in 2009, the incidence rate is equal to 290 per million, which is the same rate as in Japan, where the prevalence rate was already higher than 2 000 PMP.

The breakdown by mode of treatment shows that haemodialysis remains the principal method of treatment and concerns 67.7 % of patients, followed by peritoneal dialysis (11 %). Kidney transplants (21.3 %) began in 1984.

Chronic glomerulonephritis and Type 2 diabetes remain the major two causes of chronic renal failure in New Caledonia.

These two conditions represent half of all new patients being treated, as shown in the following figure:

# Breakdown of diseases causing chronic renal failure 15 %



The crude incidence and prevalence rates of renal failure treated in New Caledonia are relatively high overall and comparable to those of countries such as Japan and the United States.

These figures characterise the breadth of the range of health care services available for renal dysfunction in New Caledonia, but do not permit an accurate assessment of the frequency of chronic renal failure. To do so, further research would have to be considered.

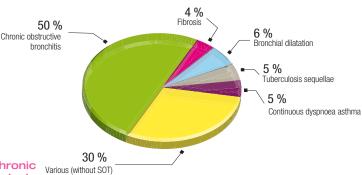
# Chronic respiratory failure

Five facilities offer home treatment for respiratory failure patients in New Caledonia.

- 'Service d'Assistance Respiratoire à Domicile' (SARD-NC), an association set up in 1990;
- 'Oxygène Confort', a private company established in September 2004;
- 'Respire', a private company set up in August 2007;
- 'Respidom', a private company incorporated in November 2007;
- 'Assistéo', a private company incorporated in 2009.

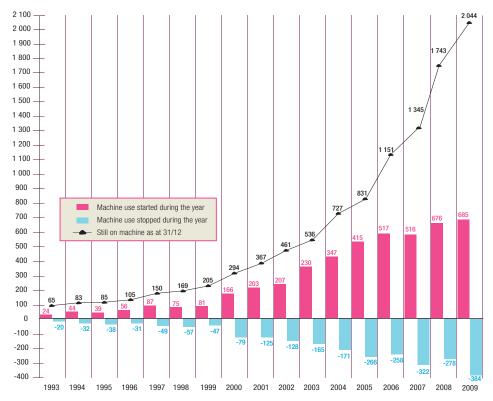
The diseases covered can be broken down into two major groups: chronic respiratory failure and sleep apnoea syndrome which require two main kinds of treatment: oxygen therapy and positive-pressure ventilation. To these two categories, in significant numbers since 1997, can be added cancers (terminal care or otorhinolaryngology)

and various diseases that remain unknown because of the mode of decision on treatment for short-term oxygen therapy (SOT), which is offered on prescription and yields no information on the disease requiring such treatment. The leading cause of chronic respiratory failure in New Caledonia remains chronic obstructive broncho-pulmonary disease (50 %).



Leading causes of chronic respiratory failure in New Caledonia

The number of patients on machine-assisted treatment has shown an exponential growth trend since 2000, when short-term oxygen therapy began.



One reason why treatment with machines ceased was patient death (36.9 % of cases of treatment discontinuation in 2009).

Deaths mainly occurred in patients with respiratory failure and terminal cancer.

The average age of patients enjoying machine treatment is 60 years.

The group concerned comprises 70.1 % men and 29.9 % women.



# **Management**

Patients are either cared for in the private sector by specialists (psychiatrists, psychologists) or in the public health care system.

In the public health care system, the hospital sector is structured as follows:

# **1 - The General Psychiatry Department** with a number of functional units addressing two sectors:

- In-patient hospital sector with 6 units: (Ward 2 3; Ward 4; Ward 5; Ward 6; Ward 7; ergotherapy).
- Out-patient hospital sector with 7 units: (Psychiatric Treatment, Orientation and Emergency Unit ('UAOUP'); day hospital; Medico-psychological Centre (CMP); Medico-psychiatric unit for prisoners (UMP); consultation and ambulatory care services unit (UCSA), Medico-psychological units in Poindimié, Koumac and Lifou; therapeutic workshops.

to making the control maticity.		Short stay		Long stay		
In-patient hospital activity 2009	Ward 7	Ward 5	Ward 6 (Secure unit)	Ward 2-3	Ward 4	
Direct admissions	316	353	17	42	1	
Days of hospitalisation	5 964	7 089	3 381	12 890	7 266	
Average length of stay	13.2	17.2	112.7	131.5	242.2	
Occupation rate	77.8	97.1	92.6	82.3	99.5	

# Out-patient hospital care 2009 UAOUP: 1 104 consultations

Day hospital: 4 672 hospitalisation days

CMP: 7 858 psychologist consultations; 4 596 home calls

Penitentiary: 10 948 somatic treatments; 2 469 psychiatric treatments

Medico-psychological centres: 6 891 treatments in Koumac and Poindimié

# 2 - The child psychiatry department comprises 5 functional units on 3 sites in Nouméa:

- Magenta, with the Early Childhood Unit (UPE) and the Medico-psychological Centre (CMP);
- Anse Vata with the Part-time Treatment Centre (CATTP) and the Day Hospital;
- Rue Dezamaud with the Treatment and Care Centre for Adolescents (CASADO).

# 3 - The Gerontology department

- In 2009, the number of consultations was 1 107; the active list comprises 759 patients, including 513 new patients.
- The **most frequent needs** were memory monitoring and memory (4.6%) and admission requests (29%): geriatric case monitoring represents 18%, opinions 4% and expert opinions 2%.

# Suicide: one aspect of mental illness

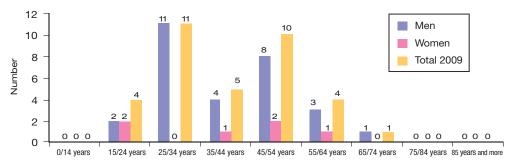
Suicide is a major public health problem in the world and particularly among adolescents. In metropolitan France, suicide is one of the major causes of premature deaths compared to other causes, especially among young adults.

Since we do not have data concerning attempted suicides, only data on deaths will be used.

**In 2009**, 35 deaths by suicide were recorded, or 2.7 % of all deaths (N=1 260) and 19.1 % of violent deaths (Group 17 of IDC 9), representing a crude mortality rate equal to 14.3 per 100 000 of the population (men: 23.5 per 100 000; women: 4.9 per 100 000) and a standardised rate equal to 13.26 (men: 22.4 per 100 000; women: 4.7 per 100 000).

If we look at the number of suicides by age group for both sexes, the age groups the most affected are the 15-24 year-olds at 37.9 % and the 45-54 year-olds at 27.5%.

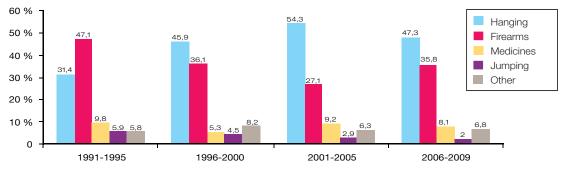
In men, the most affected group is the 45-54 year-olds with 26.5 % of suicides and in women it is the 15-24 year-olds, with 40.0 % of suicides in each group.



Distribution of deaths by suicide by sex and age group in 2009

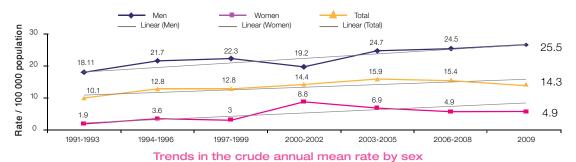
As in previous years, the 2 main methods of suicide in 2009 were the use of **firearms** (40%) and hanging (31.4%).

Over the **1991-2009 period**, the proportion of suicides by the use of firearms increased in comparison with hanging suicides..

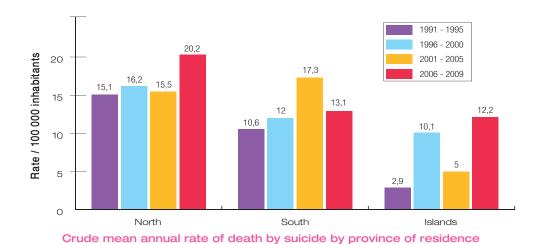


Trends in the main suicide methods for both sexes combined

The **crude annual mean rate** has been tending to increase in men since 2000 and to decrease in women over the same period.



When these death-by-suicide rates are related to the population concerned, an increase in the mean annual rate over the 2006-2009 period can be observed in the Northern and Islands Provinces.



#### Comparison with the European area

The standardised mean rate observed in New Caledonia was 23.42 per 100 000 in men and 5.48 per 100 000 in women. The combined rate was 14.58 per 100 000 depending on age and is lower than for metropolitan France (16.0 deaths per 100 000 in 2006).

France is in 3rd position in Europe behind Finland and Austria (26.3 and 24.0 per 100 000 respectively).

#### Conclusions

Suicide is a public health problem that, according to the WHO, can be avoided to a great extent and each death by suicide has devastating emotional, social and economic consequences for many families. Numerous underlying and complex causes are described as producing suicidal behaviour, especially poverty, unemployment, the loss of someone close, arguments, separations in relationships and work-related worries or brushes with the law. Family precedents as well as abuse of alcohol and drugs, sexual abuse during childhood, social isolation and some mental disorders like depression and schizophrenia play a determining role in many cases.

In New Caledonia, suicide seems to be a less worrying cause of death than in European countries and less significant than deaths by road accident. However, even if the rate of suicide is lower than the rate of deaths by road accident, it is still a significant cause of death among young men that could be avoidable.

Early detection of mental disorders and appropriate treatment are a good preventive strategy, particularly for young people. Health care professionals, teachers and social workers have an important role to play in this area by creating youth mental health care networks.

# Psychotropic drug consumption

All importations of psychotropic drugs for human use from mainland France are recorded by DASS-NC. Consumption levels remained stable over the observation period.

Tetrazepam had been prescribed in significantly growing quantities for several years. This drug is a benzodiazepine not indicated for its psychotropic properties (that do exist nevertheless) but for its myorelaxant qualities. As most other myorelaxants have disappeared from the market or are no longer eligible for reimbursement, this product is showing increased use, although it induces the side effects or contra-indications of the other benzodiazepines. Its consumption stabilized in 2008 and 2009.

As a result of the recording of abuse or misuse of these drugs, the conditions governing the prescription of flunitrazepam and high doses of oral clorazepate (20 and 50 mg) have been tightened.

The drug-dependency observed with certain hypnotics has also justified restrictive measures over their prescription.

The consumption of buprenorphine is increasing constantly through its use as a substitute treatment for opiate dependence.



#### **Road accidents**

**Number of vehicles on the road:** annual vehicle sales have constantly increased since 2000.

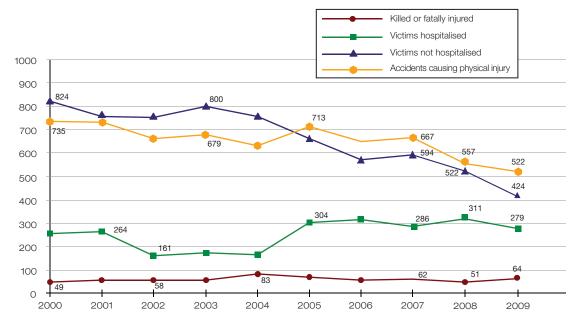
In 2009, 13 246 new vehicles were registered in New Caledonia.

The total number of vehicles on the road in New Caledonia is estimated at **150 000** according to the 2009 National Police report, or 1.5 vehicles per inhabitant over 20.

Accidents causing physical injury: In 2009, 522 accidents causing physical injury were recorded for the whole of New Caledonia, producing 64 deaths or fatal injuries, or 8.3 % of the 767 victims (279 injured and hospitalised and 424 injured but not hospitalised).

The record shows a decrease of 7.5 % in the number of accidents causing physical injury over 2008 with less hospitalisations (-10.3 %) and less unhospitalised accident victims (-18.8 %).

The number of road accident deaths in 2009 is however comparable with the mean annual figure for the past 5 years (N=65).



Annual trends in physical injury, death or fatal injury, victims hospitalised, victims not hospitalised

#### Three main causes of accidents:

In the city of Noumea, the three clearly leading main causes of accidents concerning 76.3 % of the 366 accidents were:

- loss of control of vehicle speeding: 117 cases, or 31.9 % of accidents;
- failure to give way (failure to stop at stop sign or red light): 99 cases, or 27 %;
- drink-driving: 63 cases, **17.2** %.

**Outside the urban area:** the three main causes of accidents account for **82.7** % of the total of 144 accidents.

- 67, or **42.9** %, were due to speeding or loss of control of the vehicle;
- 64 accidents, or 41 %, were due to drink-driving.

Comparatively, New Caledonia has a crude rate of **209 deaths** per 1 million population (pop. at 01/01/08) and metropolitan France 78 deaths per million population. (Source: INSEE, pop as at 01/07/08.)

# Occupational diseases and work accidents

3 agencies offer industrial medicine services in New Caledonia:

1 - 'Service Médical Interentreprises du Travail' (SMIT - The Industrial Medicine Service), responsible for occupational medicine for workers under CAFAT coverage for companies that do not have their own service. In 2009, SMIT catered for 81 213 workers in 13 795 companies. In 2009, 33 262 examinations were conducted in comparison with 30 423 in 2008.

The number of regular examinations was 16 966 and the number of non-regular examinations was 16 296.

Counted in the non-regular examinations were hiring examinations, work resumption examinations and occasional examinations.

A total of 32 601 decisions was taken during 2009. Of the persons examined, 29 177 were found to be fit for work. The others were declared to be fit with restrictions or unfit. 13 occupational diseases were detected. Musculo-tendon disorders represent 54 % of cases of such diseases. Others were deafness due to noise (3 cases), eczema (1 case), dermatosis (1 case) and scabies (1 case).

2 - Medical department of the SLN (Société Le Nickel) company, comprising two services: care medicine and preventive medicine. The medical care service takes staff without appointments and performs vaccinations. The preventive medicine service examines new staff at the hiring medical examination and conducts regular examinations. Most staff are examined annually. Highly exposed workers, such as electrode welders, undergo a regular six-monthly examination. It conducts special medical surveillance, work resumption examinations and additional screening.

It also attends to the disabled and pregnant women. Workers under special medical surveillance are those assigned to dangerous work environments or involving risks specified in **Order N° 4775-T dated 10th December 1993**, **article 1134 para. 1**, **line 2 and line 3**. Work resumption examinations are carried out after work accidents, occupational diseases, absences of more than one month and repeated absences. Additional examinations are: chest x-rays, biological tests, basic respiratory tests, audiograms, ophthalmologic tests, toxicology, nickeluria, urinary tests and PSA dosage tests.

2009 figures: 6 worksites, employing 2 430 workers, were monitored by the industrial medicine physician. 1 982 workers were under special medical supervision.

A total of **4 627** medical examinations were carried out, including 2 428 regular examinations and 15 for hiring examinations, work accidents and resumption examinations. 12 713 additional examinations were performed (blood tests, urine tests, x-rays, ophthalmology, toxicology, etc.).

3 - The Occupational Medicine Service at CHT Gaston Bourret opened in January 1998. It is located at Gaston Bourret Hospital. It is responsible for the medical surveillance of staff at the four CHT sites: Gaston Bourret, Magenta, Raoul Follereau leprosy centre and Col de la Pirogue tuberculosis treatment centre. It also oversees staff working at the Albert Bousquet (CHS) psychiatric hospital. It monitors some 1 800 people altogether for the CHT (public servants and contract staff).

# Occupational accidents

According to CAFAT data: In 2009, 4 433 occupational accidents, a decrease of 11.1 % over 2008. 258 commuting accidents (-6.9 % over 2008) and 94 occupational diseases (stable in comparison with 2008) were recorded. The number of compensated sick leave days (67 373) increased by 13.8 % in comparison to 2008 and the average duration of a period of sick leave increased from 29 days in 2008 to 30.5 days in 2009.

NB: Since 2004, the number of deaths has been relatively low and varies between 1 and 10 per year. As the graph below shows, the death rate is between 0.2 and 2.3 deaths per 1 000 work accidents (WA).



Annual trends in number of WA and number of deaths following a WA

In 2009, overall, a drop in the number of occupational accidents, deaths and commuting accidents was observed; the number of occupational diseases remained the same as in 2008.

## Addictions: alcohol, tobacco, narcotics

#### **ALCOHOL**

#### Consumption

In 2009, **1 740 192 litres of pure alcohol** were consumed in New Caledonia, 0.3 % more in than 2008

In 2009, beer consumption accounted for **42.5** % of total alcohol consumption.

Also to be noted is an increase in this figure (5.9 %) over 2008.

A decrease can be observed (-14.8 %) in wine consumption over 2008. In 2009, it accounted for **32.7** % of total consumption.

Spirits accounted for 24.8 % of the total, an increase of 15.9 % in comparison to 2008.

#### Consequences of alcoholism

In New Caledonia, the consequences of alcohol consumption and in particular excessive consumption are commonly social issues or, in the health area, traumatic injuries.

#### Mortality

In New Caledonia, medical death certificates recorded 33 deaths totally or almost totally due to alcohol consumption in 2009, or 2.6 % of the total number of deaths, a crude annual rate of **13.5 deaths** per 100 000 population.

These 610 deaths between 1991 and 2009, account for **3** % of the total of **20** 547 deaths over the past **19** years, or a crude mean rate equal to **15.9** deaths per year per 100 000 inhabitants. In addition to these 610 deaths, the figure can be extended to include deaths for which acute or chronic alcoholism was quoted as an item of further information, i.e. **577** extra deaths, increasing to 1 187 the number of deaths that can be attributed to alcohol (28 extra deaths for 2009)

Since 1991, therefore, 5.8% of deaths are due to alcohol consumption in New Caledonia, a crude annual mean mortality rate equal to 29.4 per 100 000 population.

# Youth behavioural trends (ESCAPAD 2008 Survey)

Since 2000, OFDT, in partnership with the National Service Unit (DSN), has implemented the 'ESCAPAD' declarative survey using a questionnaire offered to all the young people present at a 'defense preparation day' (JAPD). It provides information on use levels and trends in consumption patterns and preferred products.

The **most recent survey** was carried out in 2008 in France, the DOMs, New Caledonia and French Polynesia. It provides information on use levels and emerging trends in terms of products and consumption patterns and enables very active monitoring of developments at an age that is closely concerned.

Young New Caledonians seem to have habits that are broadly comparable to those measured throughout the nation. The local trends between 2005 and 2008 differ from those recorded in the French mainland, with a rising trend towards inebriation.

# **TABACCO**

The tobacco trading monopoly in New Caledonia was initiated by a Decree dated 17th October 1916. The 'Regie Locale des Tabacs', a section in the miscellaneous contributions department within the tax department, is in charge of supplying tobacco monopoly products. In this chapter, 1 tobacco unit is: 1 cigarette = 1 cigar = 1 gram (Seita agreement).

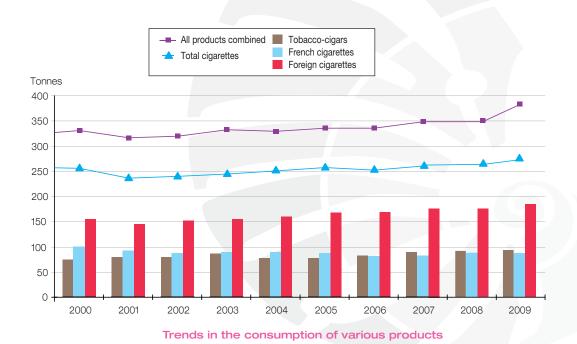
For 2009, the total sale of tobacco products amounted to: **384.5 tonnes.** 

Since 2001, a gradual increase in annual tobacco consumption has been observed in New Caledonia, taking all tobacco products together, with 2009 showing the highest annual consumption figure for the past ten years.

The estimate for daily tobacco consumption, all products combined, per adult 15 years old and older, was 5.87 grams/adult/day.

Tax revenues collected by the local tobacco monopoly increased by 16.6 % from 2008 to 2009.

It should be noted that the Government of New Caledonia, in its meeting on 24 December 2009, drew up a list of the new retail tobacco product prices in New Caledonia. The new price structure came into force on Saturday 26 December 2009.



## Consequences of smoking

**Morbidity:** The main diseases related to smoking for which we are able to collect data in terms of morbidity are respiratory cancers (lungs and bronchial tubes, larynx) as well as, in some instances, the respiratory diseases covered by home ventilation or oxygen therapy.

New Caledonia cancer register figures show that, over the past ten years, on average **75 new cases of respiratory cancers** have been recorded per year.

# Mortality

In the same way as with morbidity, it is possible to quantify the mortality due to smoking from an assessment of the death certificates issued in New Caledonia since 1991. The number of deaths due to smoking is obtained by multiplying the total number of deaths due to a given cause by the risks attributed to tobacco, as assessed in a cohort survey by the American Cancer Society.

When the risk factor is applied to each of the diseases linked to smoking, the result is 2 295 deaths in men and 275 deaths in women thought to be smoking-related, or 2 570 for 20 457 deaths during the same period, i.e. **12.5** % of deaths, representing a mean crude rate of smoking-related deaths of **65.0** per **100 000**.

The data from metropolitan France showed, in 2000, that 20 % of the total number of male deaths was smoking-related, as was 2 % of female mortality.

The standardised rate of respiratory cancer mortality is equal to **37.5 per 100 000** and that of long cancer is equal to 34.4

#### **ILLICIT DRUGS**

Our information comes from seizures by the police, 'gendarmerie' or customs services, which are covered by their annual reports to the pharmacy inspectorate.

The main substance concerned in New Caledonia, by far, remains cannabis.

Small quantities of LSD were seized in 2007 and 2009.

Small amounts of ecstasy were seized in 2008 and 2009.

The efforts by the Gendarmerie to combat cannabis use are having visible results in terms of volumes of seizures. The majority of seizures concern plants. One plant is equivalent to 200 g of cannabis.

Expressed in terms of total population, these seizures suggest that an economy has sprung up around cannabis dealing.

Seizures (in g)	2002	2003	2004	2005	2006	2007	2008	2009
Cannabis	349 201	775 286	3 833 264	2 045 060	3 458 102	3 156 117	1843 062	4 309 063
Cannabis resin	0	439	20	281	2	1	41	31
Cannabis oil	0	11 507	0	0	0	0	0	0
Cocaine	0	0	0	198	0	3	0	1
Heroin	0	0	0	0	0		0	0
LSD	0	0	0	0	0	8 blotters	0	17 blotters
MDMA	4	0	4	0	0		0	0
Methamphetamine	0	0	20	0	0			0
Ecstasy							1	1

Addiction to codeine exists but cannot be accurately assessed. It mostly involves the pharmacy drug Codoliprane® (association of 20 mg of codeine phosphhate and 400mg of paracetamol). Besides the drug addiction aspect as such, the abuse of this medicine is risky because of its paracetamol content. There is a risk of hepatic cytolysis (which can be fatal) due to the ingestion of doses of paracetamol exceeding 10 grams, i.e. two packets of Codoliprane®.

The use of derivatives of N-Benzylpiperazine or BZP, whose effects are close to those of amphetamines, is tolerated in New Zealand and personal importations have been reported. Their importation into New Caledonia is now banned.



# **POPULATION GROUP APPROACH**

#### Women

As at 01/01/2008, there were **121 188 women** in New Caledonia, 49.6 % of whom were aged between 15 and 49 years old (considered of child-bearing age).

#### CONTRACEPTION

Contraception-related activity can be estimated from the number of prescriptions issued at provincial medical centres. However, because the data for 2009 are incomplete, these numbers will only be presented for the CCF (family counselling services) in Noumea where contraception activity has increased significantly, due probably to contraceptive promotion campaigns and the involvement of all medical professionals, whether in public or private practice, as well as those of the Mother and Child Health Protection Centre (PMI).

In 2009, the CCF recorded an increase in consultations for contraceptive methods of 22.5% over 2008 with increasing use of Implanon, supplied free of charge since 2008 (except for CAFAT and collective insurance schemes).

The PMI has noted a fall in consultations for contraception of 32.1% over 2008 but with an increase in Implanon implants of 41.9%.

To more realistically assess the contraception use rate in women in New Caledonia, data from contraceptive product sales were used. If the relationship between the number of oral contraception packets sold in a year and the number necessary for a year of contraception is established, this gives an estimate of the number of women for one year.

This calculation is also done for other contraceptive methods such as IM (*Intramuscular* - 4 injections per year for the products used in New Caledonia) and for IUD (*Intra-Uterine Device* - it is considered that an IUD has an average life of 5 years).

In 2009, the number of women-years of contraception can be estimated as at least 32 560 (other methods of contraception such as condoms and others, are not accounted for), which would represent a coverage of 50.1 % of the women concerned.

#### **VOLUNTARY TERMINATION OF PREGNANCY**

The provisions concerning of voluntary pregnancy termination in New Caledonia were defined by a Resolution dated 22nd September 2000 and applied since 1st January 2001.

In 2009, 499 voluntary pregnancy terminations were notified by public hospitals and private clinics and recorded by DASS-NC, which is 2.2 % more than in 2008.

The rate per 100 conceptions can be calculated as follows: number of voluntary terminations per 100 conceptions (live births + stillbirths + voluntary terminations); thus assessed more accurately, it is equal to **26.7 per 100 conceptions.** 

Of 1000 women between the ages of 15 to 49 years considered to be of childbearing age (average population), the voluntary termination rate in New Caledonia is at least equal to **22.7 per 1 000.** This very high estimate should be related to the as-yet insufficient contraception coverage in New Caledonia, apart from the rate of undesired pregnancies that lead to a birth.

In metropolitan France, the number of abortions per 1 000 women was 14.7 in 2007

#### SCREENING FOR CERVICAL CANCER

Cervical cancer screening for is one of the 9 priority areas of the prevention plan approved by the Territorial Congress in 1994 (Resolution N° 490 dated 11th August 1994, relating to a health promotion plan). A direct method of evaluating the effects of this screening is to regularly monitor the number of cervical smears done in New Caledonia through laboratory activities.

In 2009, 27 018 cervical smears were done in New Caledonia by two medical laboratories (an increase of 9.3 % in comparison to 2008). 2.9 % of these cervical smears showed pathological lesions.

#### **MATERNITY**

The average age for mothers at first birth is tending to rise, since it went from 25.7 in 1994 to 27 in 2007 (ISEE figures).

#### PREGNANCIES AND DELIVERIES

Since 2006, the rate of caesarian sections in all facilities has shown a downward trend. In the public sector in 2009, this rate increased by 0.7% over 2008 but remained in the mean range between 2006 and 2009. It dropped however in the public sector by 3% over 2008 and was under the mean over the 2006-2009 period.

2009	Public sector	Private sector	Total
Number of deliveries	2314	1723	4037
Number of caesareans	358	362	720
% of caesareans / delive-	15.4	21	17.8

#### **MATERNAL DEATHS**

Maternal death is the death of a woman occurring during pregnancy or within 42 days after delivery, whatever the duration or location of delivery, for any cause determined or aggravated by pregnancy or the care it has required but neither accidental nor occurring by chance. 1 maternal death was recorded in 2009 (0 in 2008), giving a total of 23 cases over the past 19 years. For the period from 1991 to 2009, the average rate was therefore **28.8 per 100 000 live births.** 

Because of the low number of cases recorded each year, this rate is influenced by the hazards of small numbers. Caution should therefore be exercised when interpreting it, which does not obviate the need to look closely at the causes of death so to reduce frequency.

#### Children

#### **NEW-BORN CHILDREN**

A total of 4 112 births (including stillborn children) were recorded in 2009 (ISEE provisional figure for New Caledonia as a whole).

They are recorded in the table by place of birth and characteristics at birth as follows:

Place	Total births	Age of gestat. < 37 wks	% of gestat. < 37 wks	Births < 2 500 g	% of births < 2 500 g
Islands Province	na	na	na	na	na
Northern Province					
not including the 2 hospitals	na	na	na	na	na
P. Thavoavianon Hospital	275	6	2.2	15	5.4
D. Nebayes Hospital	na	na	na	na	na
Southner Province					
not including hospital and clinics	na	na	na	na	na
CHT	2 081	280	13.4	283	13.6
Anse Vata Polyclinic	647	11	1.7	16	2.4
Magnin Clinic	1 079	32	2.9	31	2.8
TOTAL	4 112				
TOTAL ANALYSABLE DATE	4 082	329	8.0	345	8.4

From these data, the rate of premature births can be estimated as at least 8 % and the rate of light birth weights at 8.4 %. These values are still however higher than those of metropolitan France in 2003.

## **CAUSES OF INFANT MORTALITY**

567 deaths of children less than 1 year of age were recorded between 1991 and 2009.

Perinatal diseases (foetal disorders, neonatal infections, respiratory diseases specific to the neonatal period, etc.) represent the main cause of death with 33.7 % of deaths, then congenital anomalies, with 17.8 % of deaths (mainly cardiovascular conditions: 34 cases and nervous system: 17 cases) and infectious diseases (36 cases).

55 cases of sudden infant death syndrome were observed during this period, representing 9.7% of these deaths

These figures confirm the need to monitor pregnancies, so as to detect any congenital disease as early as possible, but to also inform mothers about the need to deliver in a medical facility in order to give better care at birth to any child with a perinatal disorder.

#### YOUNG CHILDREN

#### Preventive action related to child care in provincial facilities

The child population under 6 years old concerned by preventive activities is estimated at 24 619 children, or 10.1 % of the total population. One of the purposes of preventive medicine is to make sure that all children are up to date with their vaccinations and to vaccinated those who are not.

New Caledonia's regulations provide for all children to have mandatory vaccinations for certain communicable diseases such as diphtheria, tetanus, poliomyelitis, tuberculosis, whooping cough, measles, rubella, mumps, viral Hepatitis B since 1989, haemophilus type b infections since 1994 and pneumococcal infections since 2006.

#### **REGULAR MEDICAL EXAMINATIONS IN SCHOOLS**

Since the 'Nouméa Accord', school medical examinations have been a provincial responsibility until primary school and a French state responsibility ('Vice-rectorat': education authority) from secondary school onwards.

A total of 36 502 children were enrolled in primary schools in New Caledonia in 2009 (ISEE figure). In 2009, the Nouméa school medical centre carried out 1 934 pre-school medical examinations, 5 754 primary school ("CP", "CE2" and "CM2" classes) medical examinations and 822 special class ("clis", "IMI/ACH" and "Segpa") médical examinations, from an active list of 8 774 children to see.

Information about school medical examinations for the rest of the country is unavailable.



# **NEALTH SERVICE ORGANISATION**

# Health professionals' demographics

#### **PHYSICIANS**

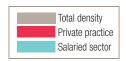
The results obtained come from the 'ADELI' records administered by the Health Inspectorate at DASS - NC. For 2009, the figures were established as at 1st September.

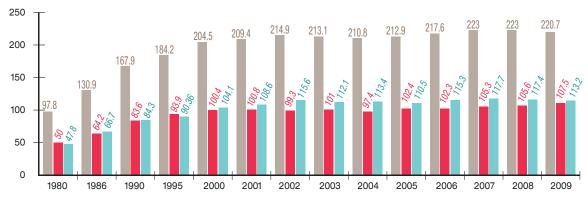
This group includes private practice physicians whether or not bound by contract to the public health scheme, public health physicians and salaried physicians in the private sector.

Physicians doing a replacement, interns, physicians awaiting a practice or seeking employment, physicians who are technical aid volunteers and those practicing at the 'Direction Inter Armée des Services de Santé' (Armed Forces Joint Health Services) are not included.

In the ADELI listing, a physician is considered as a specialist if he/she is practicing his/her specialty. The nomenclature used is therefore related to the year concerned.

**542 physicians** were practicing in 2009 (264 in private practice and 278 salaried), a reduction of 0.6 % in comparison to 2008. In 2009, an increase (2.3 %) in private practice physicians and a decrease of 3 % in salaried physician numbers were observed. The number of physicians in private practice is controlled because of the freeze in new contracts with the social protection agencies. In 2009, the density was 220.7 physicians per 100 000 population.





Density disparities are observed between provinces, with the lowest in the Northern Province and the highest in the Southern Province, in Nouméa in particular because of the presence of hospitals and clinics where most of the specialists and many GPs practice.

In the Islands Province, the figure falls between that of the Northern Province and that of the Southern Province.

These densities are as follows:

Loyalty Islands: 103.2Northern Province: 99.4Southern Province: 261.9

260 (48 %) of active physicians are general practitioners, a density equal to 105.9 for New Caledonia as a whole, which is lower than for metropolitan France which was equal to 145.5 general practitioners for 100 000 population (estimate by ATLAS of medical demography in France – CNOM as at 1st January 2008). 88.4 % of Southern Province general practitioners were working in the Nouméa or Greater Nouméa area, a density equal to 111.8 for this zone as against 125.3 for the other Southern Province communes taken together.

**282** specialist physicians are active, representing a density of **114.8** specialists per 100 000 population in New Caledonia. The density is higher in the Southern Province and in Nouméa in particular, because of the presence of the main hospitals and technical facilities.

The densities by group of specialists by province are as follows:

	Der	nsity per 100 000	habitants
Speciality	Nothern Province	Southern Province	New Caledonia
Medical	8.8	79.8	61.1
Surgical	2.2	35.5	26.9
Psychiatry and Child Psychiatry	4.4	10.9	8.9
Biology	2.2	4.4	3.7
Public health	0	4.4	3.3
Occuptional	2.2	9.8	7.3
Total density	19.9	149.3	114.8

#### OTHER HEALTH PROFESSIONALS

The numbers in each profession and distribution by area of activity come from the ADELI records, employer records and CAFAT data for 2009.

In New Caledonia, the density of dental surgeons is **48.9 per 100 000 population.** The breakdown between the salaried sector and the private sector is respectively 36 % and 64 %.

The density of dental surgeons in private practice is **32.2 per 100 000 population**.

In metropolitan France, the average density was a little higher and equal to 65 per 100 000 as at 01/01/2009.

The total density of physiotherapists in New Caledonia is **49.7 per 100 000 population**, with the private practice sector showing a density of **41.7 per 100 000 population**. The figure in mainland France was 105 as at 01/01/2007.

The density of nurses – general, specialist and supervisors – was **441.2 per 100 000.** In metropolitan France, the density was 780 as at 01/01/2008.

We do not have 2009 figures for midwives or pharmacists and include the 2008 figures below.

The density of midwives in New Caledonia was  $163.2 \text{ per } 100 \ 000 \text{ women}$  aged 15 to 49 years (N = 106) in 2008. In metropolitan France, the density was 125 per 100 000 women aged 15 to 49 years (as at 01/01/2008).

The density of pharmacists, all categories combined, was  $57.7 \text{ per } 100 \ 000 \ (N = 141)$  in New Caledonia in 2008. In metropolitan France, this density was higher and equal to 118 as at 01/01/2008.

### **Facilities**

# **HOSPITAL BEDS AND PLACES (AS AT 31 DECEMBER 2008)**

Short-stay

Medicine: 206 full hospitalisation beds at the 'CHT' and 20 day beds.

Surgery: 120 full hospitalisation beds in the surgery unit of CHT Gaston Bourret and 5 day beds.

Obstetrics: 60 full hospitalisation Obstetric Department beds at the CHT Gaston Bourret and 3 day beds.

Critical care unit: there are 56 hospitalisation beds for this unit, including 40 at CHT Gaston Bourret.

In total: short-stay wards account for 657 full hospitalization beds (HC) and 53 day beds.

	Sector	Short-stay hospitalisation services				
	PRIVATE	Medical	Surgical	Obstetrics	Intensive care	Total
	Anse Vata Clinic	26	1	7	0	34
	Baie des Citrons Clinic	21	32	0	4	57
	Magnin Clinic	14	40	19	7	80
TOTAL private sector		61	73	26	11	171
	PUBLIC	Medical	Surgical	Obstetrics	Intensive care	Total
	PUBLIC G. Bourret Hospital	Medical 206	Surgical 120	Obstetrics 60	Intensive care	Total 426
	G. Bourret Hospital		120	60	40	426
	G. Bourret Hospital P.Thavoavianon Hospital	206 17	120 13	60 9	40 3	426 42

## General Psychiatry

Adults: 111 full hospitalisation beds and 58 day beds

Infants and juveniles: 25 day beds.

Geriatric ward: 76 full hospitalisation beds.

## Medium-term stays

Follow-up and rehabilitation care: 74 full hospitalisation beds.

## Long-term stays

Geriatric care: 19 full hospitalisation beds at the central hospital (Raoul Follereau Centre), 57 beds at the Albert Bousquet 'CHS' (specialised hospital).

# Multi-purpose local hospitalisation facilities

These are the beds in the medico-social centres managed by the provincial health and social affairs departments in the rural areas and the islands. They number 27 with a total of 42 beds, broken down as follows:

- 5 medico-social districts in the Islands Province totalling 31 beds;
- 14 medico-social districts in the Northern Province totalling 2 beds;
- 7 medico-social districts in the Southern Province totalling 9 beds.

All these health facilities operate with a constant medical and para-medical presence (weekdays and holidays). These are local facilities whose main task is to meet the needs of the community in the curative, emergency and prevention areas.

#### **PARA-PUBLIC FACILITIES (2006)**

The Société Le Nickel, with the 'Mutuelle SLN' (SLN mutual insurance system) includes:

- The SLN medical centre at Doniambo, in Nouméa, with 2 ophthalmologists, 3 dental surgeons and 2 general practitioners.
- 2 optical centres, one in Quartier Latin (Nouméa) and one in Doniambo, where 3 optician/ spectacle-makers practice.
- 2 dental surgeries, in Thio and Kouaoua; one dental surgeon covers these two locations.

In 2008, 12 139 ophthalmological consultations and 11 297 dental consultations were performed.

# 'Mutuelle des Fonctionnaires' (public servants' mutual insurance scheme)

It offers:

- in Nouméa: 1 physician, 6 dental surgeons, 2 physiotherapists, 1 pharmacist,
- in Boulari (Mont-Dore): 1 general practitioner, 2 dental surgeons,
- In Bourail: 1 dentist,
- in Pouembout: 1 dental surgeon, 1 pharmacist.

In 2008, 3 080 dental consultations and 8 456 medical consultations were performed.

#### **CAFAT**: (New Caledonia social security system)

In Noumea, there are 2 socio-medical centres, one at Receiving and one at Rivière Salée, where the following doctors practice:

- 9 general practitioners,
- 4 dental surgeons,
- 1 radiologist,
- Cardiologists, paediatricians and ENT specialists working as consultants.

#### ARMED FORCES HEALTH CENTRES

Infirmeries	Beds	Perso Physicians	nnel Nurses	Number of days	Number of consultations
'Centre de consultations interarmées', Nouméa	12	4	6	42	5 212
Marine infantry regiment for the Pacific (RIMAP) in Plum	8	3	4	99	3 322
RIMAP Detachament in Nandaï - Bourail	7	1	1	50	2 643
Tontouta naval air base	4	1	3	10	1 331
Special military service group in Koumac	0	1	1	0	758
TOTAL 2008	31	10	15	201	13 266

For army health care outpatient consultations, army families can go to the 'Centre de consultations interarmées' (Armed Services Health Centre) in Nouméa.

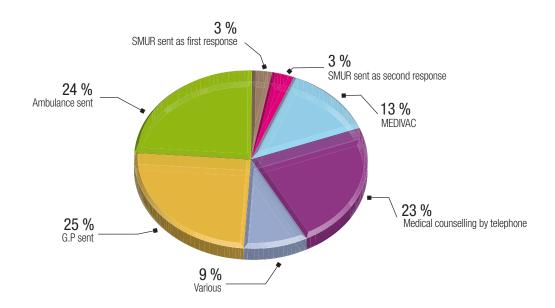
#### **EMERGENCY UNITS**

The SAMU's essential mission is to provide or obtain appropriate emergency health care to sick persons, persons with injuries and parturients, wherever they are located in New Caledonia, on a constant basis. The emergency unit's mission is to cater at any time for all patients coming to Gaston Bourret Hospital for immediate care and for whom care was not scheduled, whether in the event of an emergency or a perceived emergency.

In 2009, the 2 emergency units at Gaston Bourret and Magenta recorded 45 578 patients as against 43 605 in 2008, an increase of 5% (+5 % at Magenta and + 4.5 % at G. Bourret). 22 % of these cases required hospitalisation: 29 % at Gaston Bourret and 12.2% at Magenta.

#### Note re 2008

SAMU - SMUR results: the "15" emergency call centre received 29 529 calls producing a medical response in 2008, which is 8 % more than in 2007. These calls were processed as follows:



# **Medico-technical services**

#### Blood transfusions

2008 was characterised by an increase in overall activity (6 407 884 B), -3.1 % over 2007. A decrease in the number of blood donations was recorded in comparison to 2007 (-3.6 %). These donations have been the only therapeutic source of platelets since August 2004 and make it possible to ensure constant local supply of this product, for which the need is urgent and unpredictable. The quantities of blood given for auto-transfusion are stable and the practice is infrequent.

# Medical biology

In the public sector, there are biochemical and haemostasis laboratories at 'Centre Hospitalier Territorial Gaston Bourret' and there is a laboratory at the Thavoavianon Hospital in Koumac.

Institut Pasteur, mostly performing serology, haematology, and microbiology, as well as having an anatamocytopathological function, is a private foundation recognised as being of public benefit with the task of contributing to disease prevention and treatment through public health activities, research and training. The medical testing laboratory of the CAFAT Medico-social Centre is located in the Receiving area of Nouméa and performs chemical, haematological and microbiological testing.

11 medical testing laboratories are registered in the private sector, 6 in Noumea, 1 in Dumbea, 1 in Mont-Dore, 1 in Koné, 1 in Paita and 1 in Bourail.

## Medical imaging

At the Noumea CHT, radiology is split into 2 units, one in-house in rue Paul Doumer that includes the Scanner and RMI Unit (since November 2005) and one at the Magenta Annex which basically performs woman and child radiology and echography. It should be noted that an agreement between the public and private sectors gives private practice patients access to the CHT Scanner and MRI unit.

The P. Thavoavianon and D. Nebayes hospitals as well as the Cafat Medico-social Centre at Receiving all have radiology units.

In the private sector, there are 5 private radiology practices.

# **PHARMACIES**

61 pharmacies are registered and 60 open to the public: 58 in the private sector and 3 mutual insurance pharmacies.

These 60 pharmacies are distributed as follows:

- Nouméa: 23 pharmacies + 2 mutual insurance pharmacies;
- The other communes of the Greater Noumea area: 15 pharmacies;
- Outside Greater Nouméa: 18 pharmacies + 1 mutual insurance pharmacy;

Islands Province: 4 pharmacies.

Three dispensing physicians practice in the Isle of Pines.

#### Pharmacies within a healthcare facility

Twelve pharmacies within healthcare facilities have been authorized in the following facilities: 'ATIR-NC', 'CHT Gaston Bourret', 'CHS Albert Bousquet', P. Thavoaviannon Hospital, D. Nebayes Hospital, Magnin Clinic, Anse-Vata Clinic, Baie des Citrons Clinic; Islands Province, Northern Province, Southern Province and Vavouto Medical Centre (KNS).

#### Pharmaceutical wholesalers

There are 5 wholesale pharmaceutical distributors in New Caledonia, with the main ones being 'Office Calédonien de Distribution Pharmaceutique' (OCDP) and 'Groupement de Pharmaciens de Nouvelle-Calédonie' (GPNC).

#### Medicine depots

There are 25 medicine depots operated by non-pharmacist traders. This number of businesses conducting this activity in practice is not accurately known and the situation needs to be reassessed.



# Health sector accounts

Resolution No 490 dated 11 August 1994, as amended, relating to a health promotion and health expenditure control plan on the Territory of New Caledonia provides for annual 'health accounts' to be prepared. In this document, they are presented for a series of three financial years (2004 to 2006). Health accounts make it possible to assess the cost of health care and analyse trends. They also make it possible to identify the source of the financial resources allocated to this expenditure and the distribution of financial effort between health insurance agencies, households, supplementary insurance policies and public agencies.

#### Definition

The cost of health care can be approached through two standardised combined concepts:

- Total medical consumption;
- Recurrent health costs.

### Total medical consumption

Total medical consumption is equivalent to the value of the medical goods and services used in New Caledonia in direct response to individual health needs. It is expressed in terms of overall financial volumes arising from curative care and individual preventive medicine services offered over the year.

**Health care** consumption comprises inpatient and outpatient healthcare benefits delivered by hospitals, private practices, district medical facilities, provincial health centres and social welfare agencies. To health care proper should be added the **consumption of medicines and other medical goods** (optical items, prostheses, minor equipment and dressings).

Medical care and goods are grouped into the following categories: hospitalisations, out-patient care, medical evacuations, physicians' fees and the costs stemming from their prescriptions: medical auxiliaries, drugs, tests, prostheses, medical transport, etc., plus dental care.

The expenditure relating to individual preventive medicine comprises the cost of vaccinations, testing and medical surveillance, as well as the expenditure incurred in industrial medicine services.

#### Recurrent health expenditure

Recurrent health expenditure is equivalent to the overall effort expended on health in the course of a year by the population and institutions in New Caledonia; It amounts to the total expenditure committed by the funders of the health system: Cafat, the provinces of New Caledonia under medical aid, the supplementary cover organisations (mutual insurance companies, insurance companies, provident institutions) and households themselves.

To the total medical consumption defined above, should be added the daily allowances, research, health professionals' training, health system management costs and collective prevention outlay (public awareness and health education campaigns).

#### **Precautions**

The following data are estimated where household and private insurance outlays are concerned, as the private insurers did not communicate any information. Expenditure is assessed through deductions based on the revenue received by hospitals and as an overall figure estimate where municipal health care expenditure is concerned (SANESCO basis = 5 % upward adjustment).

Similarly, the data communicated by certain bodies or public administrations were incomplete and a footnote states which data are estimates.

# **OST OF HEALTH CARE IN NEW CALEDONIA**

#### Trends from 2006 to 2008

Between 2006 and 2008, total medical consumption increased, overall, by 11.4 % and recurrent health expenditure by 12 %. The falling trend in health expenditure began in late 2006, continued in 2007 and became stronger in 2008.

Year	Total medical consumption in millions of CFP francs	Recurrent health expenditure
2006	55 886.85	61 250.59
2007	60 405.64	66 238.00
2008	62 289.36	68 601.85

The development of the supply side in the health sector, improved socio-economic circumstances and the extension of the social protection system have contributed to an improvement in the overall health status of the community but have been accompanied by an uncontrolled structural increase in health expenditure.

This major growth in health-related expenditure prompted the Congress in late 2005 to adopt a second health expenditure control plan after the initial one adopted in 1994 that made it possible to contain health expenditure for a number of years. The first effects of this new plan were felt in 2006, notably in reduced hospital expenditure.

# Comparison

The use of standardised aggregates makes comparisons possible, with mainland France in particular, by expressing:

- Total medical consumption and recurrent health expenditure per inhabitant;
- Total medical consumption and recurrent health expenditure per inhabitant in relation to GDP.

# A - Trends in total medical consumption per inhabitant and recurrent health expenditure per inhabitant

Year	2006¹	2007	2008	
Population of NC (ISEE data)	236 528	240 390*	244 600*	
Total medical consumption per inhabitant in NC	236 280 FCFP	251 281FCFP	254 658 FCFP	
in France	294 929 FCFP	306 476 FCFP	317 221 FCFP	
Health expenditure per inhabitant in NC	258 957 FCFP	275 543 FCFP	280 465 FCFP	
in France	372 873 FCFP	386 369 FCFP	400 015 FCFP	

<sup>&</sup>lt;sup>1</sup> The data have been reviewed since the last health report to include prevention-related expenditure not identified previously.

The lower figures for medical consumption per inhabitant in New Caledonia can be explained in particular by the age structure of the New Caledonian population, with young people representing a higher proportion of the population than on the French mainland, as young people consume less health care, and also by the fact that the supply of some services is still limited in some sectors and some parts of the country.

To this lower medical consumption per inhabitant should be added training and research expenditure, which is much lower in New Caledonia than in mainland France, producing recurrent health expenditure that is also relatively lower.

<sup>\*</sup> Population as estimated.

#### B - Trends in recurrent health expenditure in relation to GDP

The moderation of the weight of health in national wealth creation observed in 2007 is linked to strong GDP growth in 2006 and 2007 (mean annual growth rate of 5.6 %), while the GDP growth rate slowed markedly in 2008 (+0.6%).

In %	2006	2007	2008
New Caledonia GDP (in billions of CFP francs)	652.4	772.8	728.5
Medical consumption in terms of GDP	9.38 %	8.57 %	9.5 %
in France	11 %	10.9 %	11 %

\*Source: ISEE

# National health expenditure in OECD countries

The OECD uses a slightly different concept to enable comparisons between its members: national health expenditure, which is assessed from recurrent health expenditure by deducting daily cash benefits and research and medical training expenditure and adding the crude initial fixed capital value of the public hospital sector.

In New Caledonia, this corresponds to investment in the territorial public hospitals (CHT/CHN/CHS), amounting in 2007 to 1 578.65 million francs and in 2008 to 479.77 million francs.

The construction of a new hospital in Koutio, to supersede the current Gaston Bourret CHT, accounts for a major share of this investment.

National health expenditure calculated for New Caledonia in 2007 was 9.1 % of GDP, while for France the figure was 11 % of GDP.

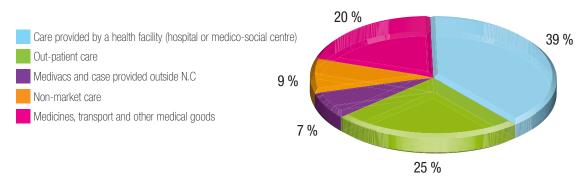
In 2008, 68.6 billion CFP francs were spent in total on health care in New Caledonia, an average of 280 465 CFP francs per inhabitant. Within this figure, 62.3 billion were directly spent on the consumption of medical care and goods, i.e. 254 658 francs per inhabitant. New Caledonia's health expenditure is equivalent to the average health expenditure of developed countries.

# Health care consumption

Less than 10% of the care received in New Caledonia is 'non-market' care, provided free of charge or under special rates, mainly at the provincial dispensaries or medico-social centres run by social welfare agencies (CAFAT and mutual insurance schemes).

The consumption of market medical goods and services comprises care provided in health facilities, outpatient care (physicians, dentists, medical laboratories), transport, medicines and other medical goods (optical, prostheses, minor equipment and dressings).

#### Expenditure breakdown





# Non-medical factors and health

# **THE ENVIRONMENT**

Health is the result of a group of determining factors, in particular, the physical and social environment, lifestyles and health care systems. Health protection and promotion policies should be designed to encompass all of these determinants.

# Climatology

## A climatological review of 2009

- Annual rainfall was 26% higher than normal, mostly due to the exceptionally high figures recorded in the early part of the year (La Nina event). It should be noted that the year included the two ENSO (El Nino Southern Oscillation) configurations. The closing part of the year was an El Nino phase, bringing rainfall deficits.
- The mean annual temperature was statistically close to the normal seasonal figures.
- Insolation and solar radiation were below average on the whole.
- Potential evapo-transpiration was at its highest during the summer season. The potential annual water balance is in a slight surplus situation overall
- Average wind speeds were slightly lower than normal

# Water

The Government of New Caledonia mainly exercises jurisdiction over water through health and hygiene regulations. The Provinces have jurisdiction over environmental matters, particularly regulations on classified facilities (water treatment plants, for example).

According to the 'Commune Code' (the 'commune' is the smallest administrative subdivision in France), communes have jurisdiction over hygiene matters and are responsible for preventing disease outbreaks. In this regard, they must implement quality control measures for their water supply systems and ensure the quality of bathing and recreational water and the standard of their sanitation facilities.

In New Caledonia, the mean volume of water billed per year and per consumer is 460 cu. m. In Noumea, the public water supply service has been contracted to 'Calédoniennne des Eaux'. Noumea's water supply comes from the water reservoir above the Dumbéa Dam, the 'Aqueduc' pumping facilities at Tontouta and several pumping stations spread out along the Dumbéa River.

# **Bathing water**

Only the City of Noumea carries out quality control inspections of bathing water. The Municipal Hygiene Department takes and tests water samples on a regular basis.

# **Sanitation**

Poor maintenance or lack (in most cases) of sanitation systems lead to a noticeable decrease in the bacteriological quality of natural water.

For that reason, water in New Caledonia is, on the whole, of inadequate bacteriological quality. It is characterised by excessive amounts of faecal germs from both humans and cattle. This presence deteriorates drinking water if it is not treated but also impinges on contact uses such as swimming, bathing, etc.

The most alarming situation is the contamination of the water lens in the Loyalty Islands, the population's only source of drinking water.

# Air

The 'Association de Surveillance Calédonienne de la Qualité de l'Air (Scal-Air: http://www.scalair.nc) is responsible for the surveillance of air quality in New Caledonia and raising public awareness on this issue.

Scal-Air takes samples and analyses in real time the pollutants present in the ambient air.

Four pollutants are kept under surveillance: fine particles; sulphur dioxide; nitrogen dioxide; ozone. Concentrations of each of these pollutants are classified on a scale from 1: 'very good' to 10: 'very bad'. The highest of these four sub-indices gives the 'ATMO' index for the day. Real-time mapping data can be used to accompany the index figure.

# **Fires**

All levels of government and the communes are responsible for **fire protection**. The French Government, as part of civil security, has a share in the responsibility for managing the resources to fight large-scale fires. The high level of involvement by the Armed Forces in fires that exceed the communes' resources should be noted.

The figures included here cover the 2009/2010 season (from 1st September 2009 to 27 January 2010. Altogether, 694 fires destroyed 10 900 hectares (during the 2008-2009 season: 208 fires and 1 119 hectares burnt).

# **Food**

The Animal Health Office at the Department of Animal Health, Food and Rural Affairs (DAVAR) is responsible for monitoring food products of animal origin. This office also monitors collective catering facilities in collaboration with provincial or municipal hygiene services.

This service has a laboratory capable of carrying out microbiological testing of food items. It also has data on the in-house inspections carried out by facilities that prepare ready-to-eat cooked dishes.

The Economic Affairs Department conducts quality control of food in retailing networks as part of its fraud control work.

#### Waste

**Household refuse** generation is steadily increasing due to the growing population and increased use of manufactured and factory-packaged goods.

Certain **specific types of waste,** e.g. purged substances or liquids, used oil, tyres, toxic waste (pyralene, lead batteries) undergo specific processing. Up to now, **potentially infectious health system waste material** has been destroyed by incineration.

A new process will soon be put into place that uses a disinfection process.

A wide range of actions designed to heighten **public awareness about cleanliness** have been carried out and are still extremely vital for New Caledonia.

# CONOMIC AND SOCIAL DATA (ISEE)

Internationally, the economic crisis at last gave way, late in 2009, to an incipient recovery. The disruption that began in the United States in mid-2007 with the 'sub-prime' crisis grew into a major economic crisis in 2008 and lasted until mid-2009, becoming the worst such event since 1929.

#### **New Caledonian economy**

Growth estimates were higher in 2009 (+1.8 % in volume) than in 2008 (+0.6%). Nickel has played a major part in this recovery, with better results than in 2008. Apart from the nickel sector, activity slowed, with enviable growth (+2.1%), lower however than 2008 (+4.6%). Inflation was low, reflecting the worldwide trend. After a record year in 2008, therefore, the increase in prices in 2009 was the lowest in a decade (+0.2%). The economy was however weakened, both by the fear of a spreading world crisis and also by internal factors such as the end of the Vale Inco plant construction phase.

# Mining and metallurgy

The per-pound price of nickel, which had lost almost two-thirds of its value over one year in January 2009 (5.13 USD/lb as against 12.56 USD/lb one year ago), saw this gap narrow over the subsequent months (-20.4% in July) to move back into positive territory from October and reach +76.3% in December (7.74 USD/lb as against 4.39 USD/lb in December 2008).

#### Fisheries and aquaculture

New Caledonia exported 2 368 tonnes of seafood products valued at 2.1 billion CFP francs, as against 2 326 tonnes worth 2.4 billion francs the previous year. While export tonnages from one year to the next remained relatively stable, the drop in value of 9.0 % pulled 2009 exports down to their lowest level of the past ten years. Over three-quarters of these exports went to three countries: Japan (45%), France (25%) and Hong Kong (12%).

#### Construction

With 8 415 people on average employed in the construction sector in 2009, wage employment showed a 2.4% increase in one year, representing 195 extra jobs. The BT 21 'all trades' index, which tracks the overall developments in construction costs, stood at 129.04 in December 2009, as against 135.34 in December 2008.

# Energy

In 2009, electricity production amounted to 1 944 GWh, an increase of 3.4% over 2008. The breakdown by source shows a significant increase in wind power generation (+16.7%) and a smaller increase in power-station electricity generation (+8.7%). Hydro-electric power generation fell by 13.7%.

#### Tourisme

New Caledonia recorded 99 379 visitor arrivals in 2009, as compared to 103 672 in 2008 (- 4 293 tourists)

#### Travel by New Caledonians

2009 was a record year, with 119 035 return journeys, as compared to 111 598 in 2008 (+6.7%).

#### Consumer prices

In December 2009, the consumer price index stood at 132.3, as against 131.7 in December 2008, showing an increase of +0.2% over the year.

#### Salaried employment

The private sector, which accounts for almost three-quarters (71%) of total salaried employment, comprised 58 836 staff on average in 2009, as compared to 57 066 in 2008.

The public sector, representing over one quarter (29%) of total salaried employment, in 2009 recorded the smallest increase of recent years (+1.7%).

#### Public finances

In 2009, the French Government spent 137 billion CFP francs in New Caledonia, slightly less (-0.6%) than in 2008.

The provisional budget situation in New Caledonia shows a slight fall in revenue (-0.7%) and a larger reduction of expenditure (-9.6%) in 2009.



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